

Fig 1A (ICP27 plasmid)

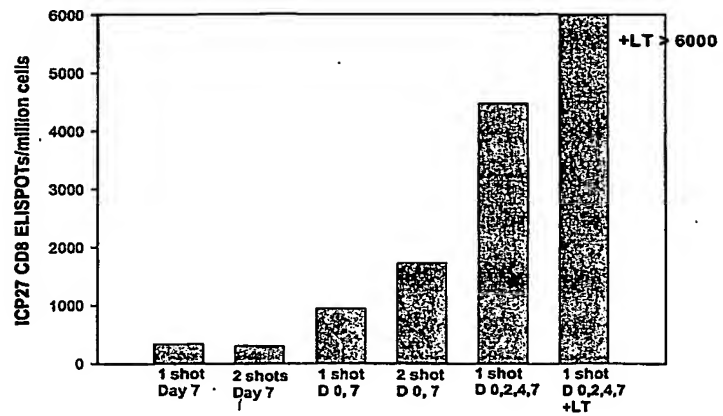
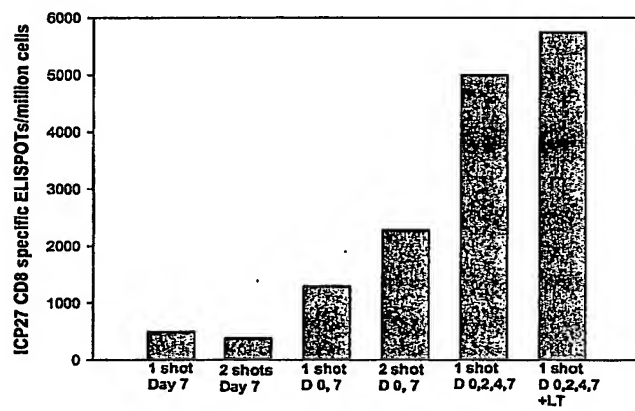


Fig 1B (PJV7630)



BEST AVAILABLE COPY

Fig 2A

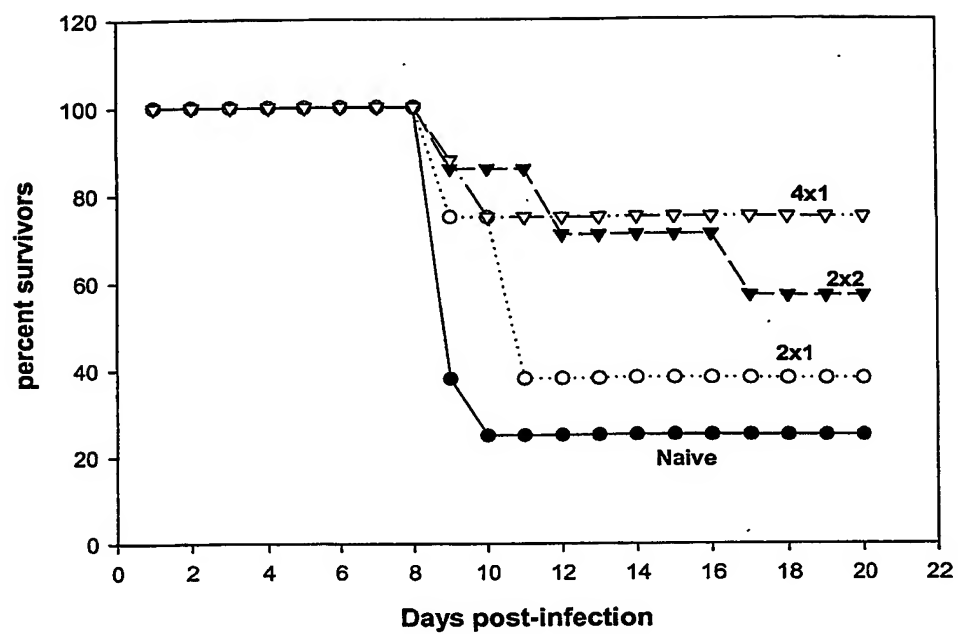


Fig 2B.

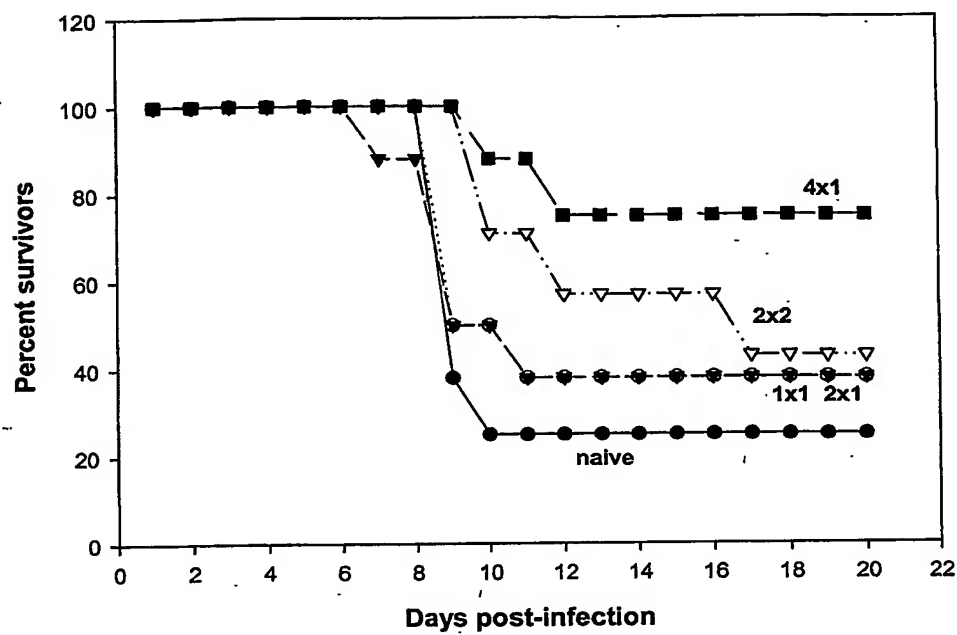


Fig 2C

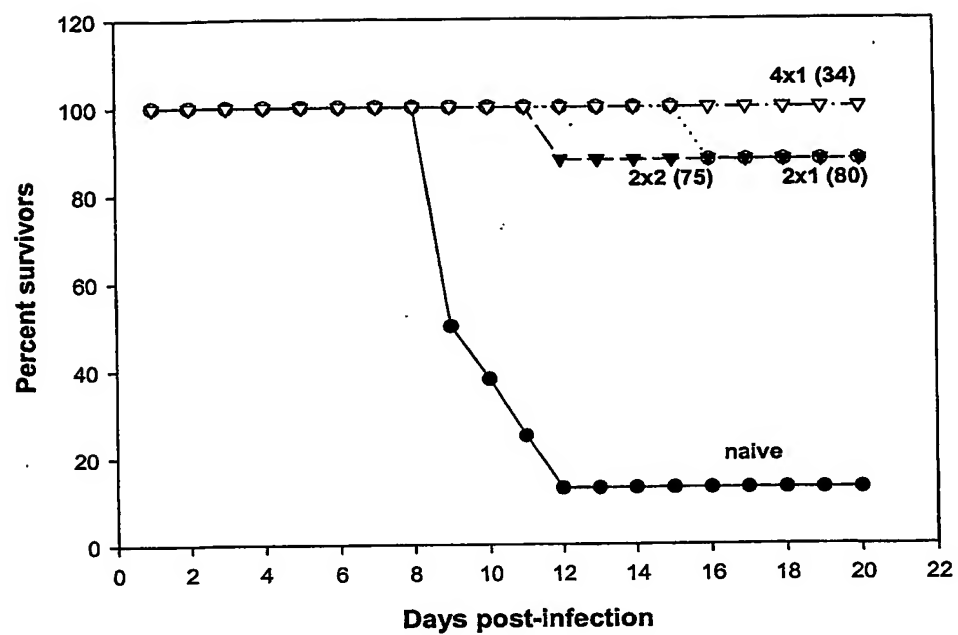


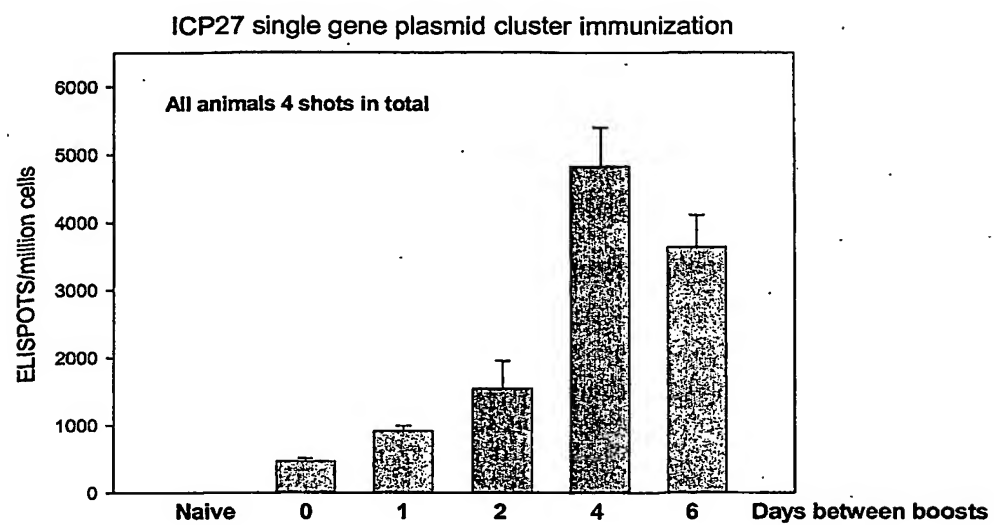
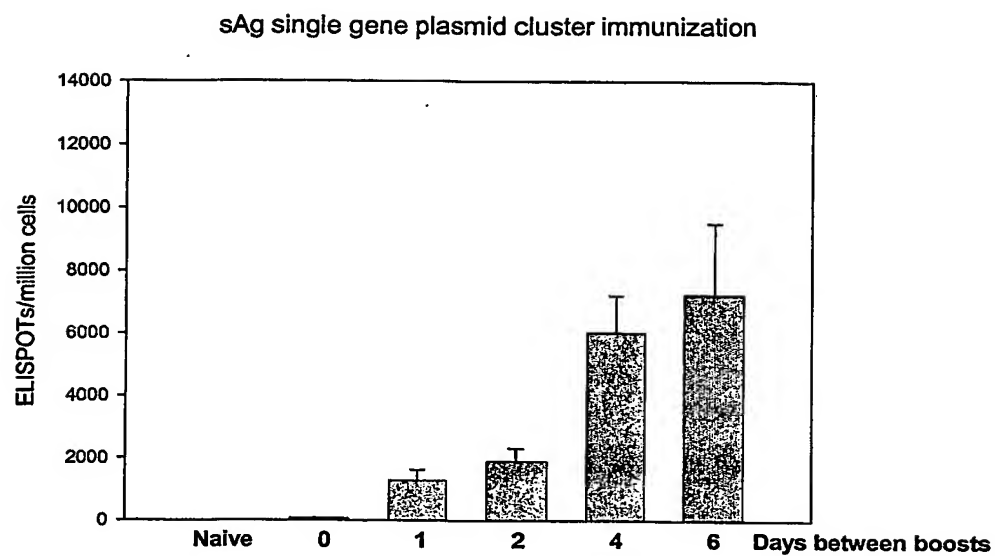
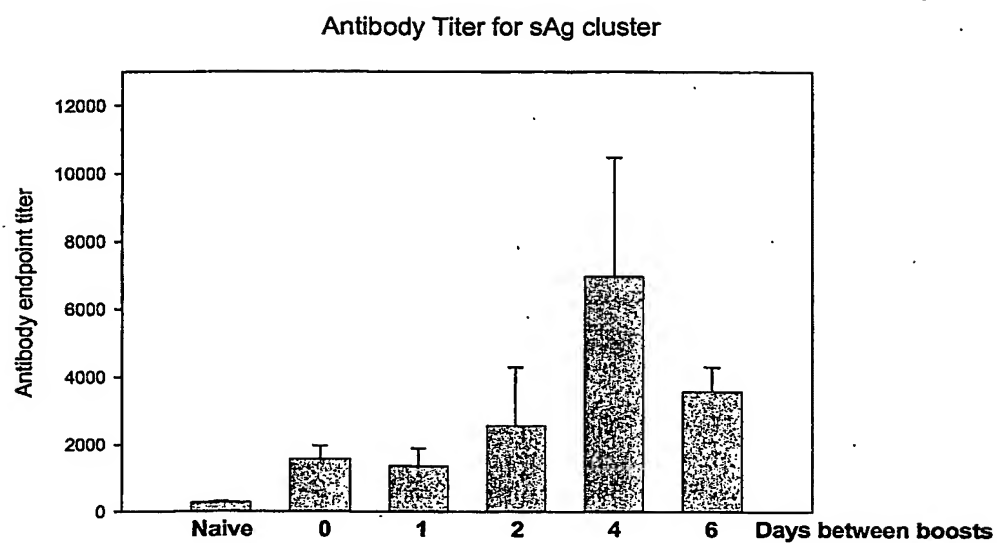
Figure 3A**BEST AVAILABLE COPY**

Figure 3B



BEST AVAILABLE COPY

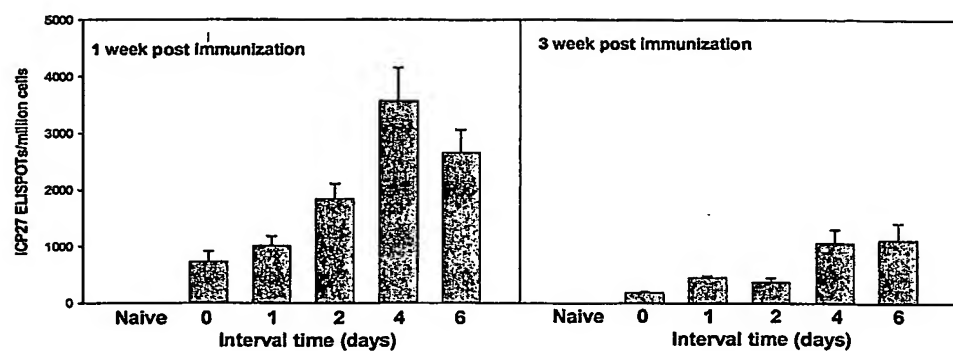
Figure 3C



BEST AVAILABLE COPY

Figure 4A

Figure 4B



BEST AVAILABLE COPY

Figure 5A

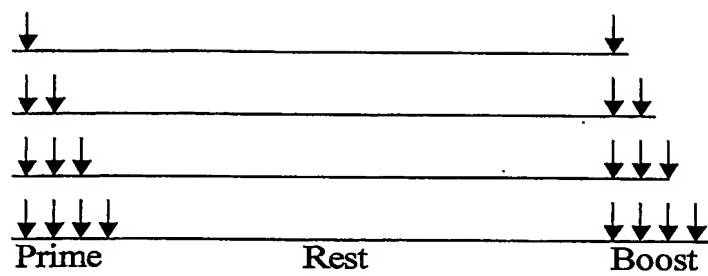


Figure 5B

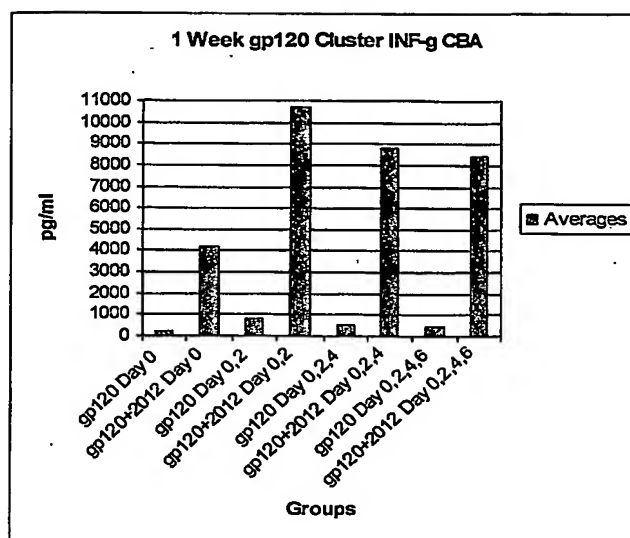


Figure 5C

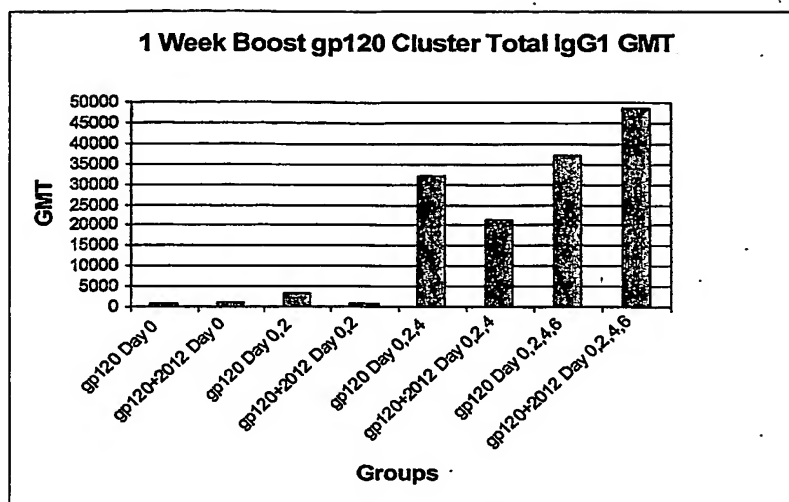
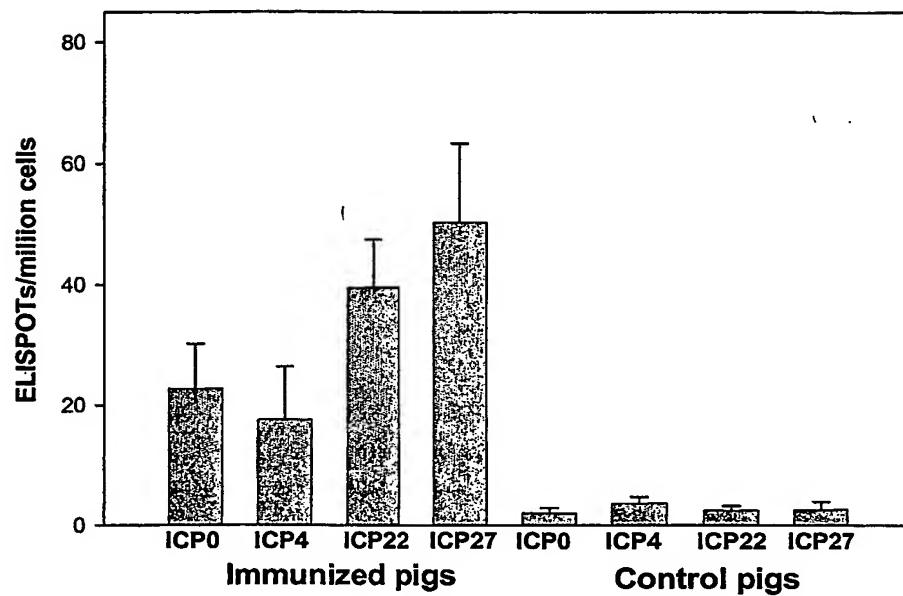
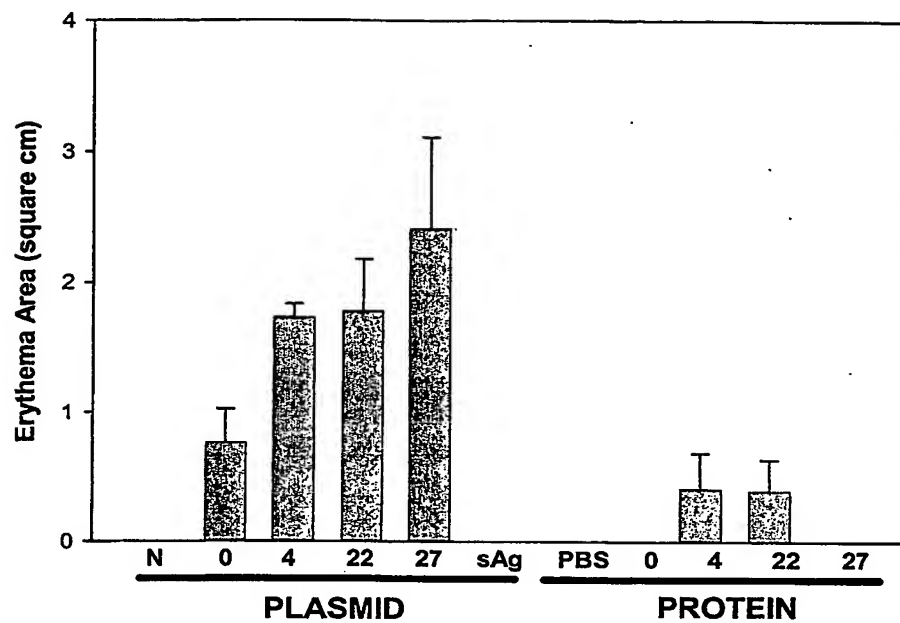


Figure 6A



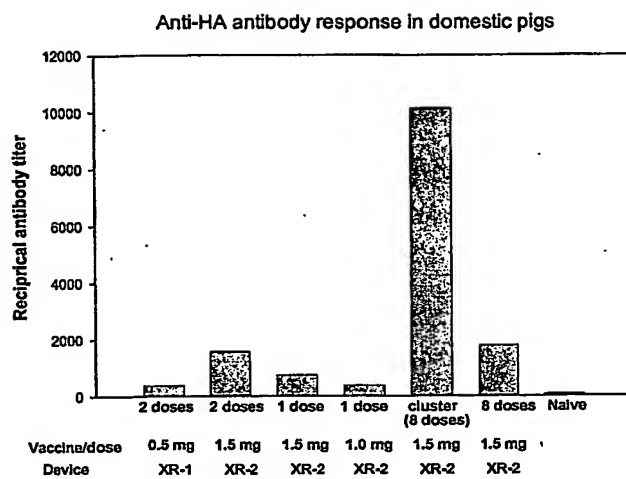
BEST AVAILABLE COPY

Figure 6B



BEST AVAILABLE COPY

Figure 7



BEST AVAILABLE COPY

Figure 8

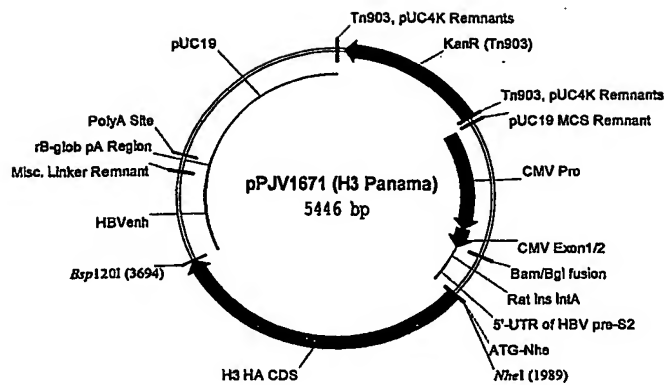


Figure 9

	(1)	1	10	20	30	40	50	65	
H3 Panama HA Natural Sequence	(1)	—MKTIIALSYYILCLVFAQKLPGNDNSTATLCLGHHAVSNGTLVKTIITNDQIEVTNATELVQSSS							
H3 Panama HA Encoded by pFJ1671	(1)	MASKTIIALSYYILCLVFAQKLPGNDNSTATLCLGHHAVSNGTLVKTIITNDQIEVTNATELVQSSS							
Consensus	(1)	KTIIALSYYILCLVFAQKLPGNDNSTATLCLGHHAVSNGTLVKTIITNDQIEVTNATELVQSSS							

Figure 10

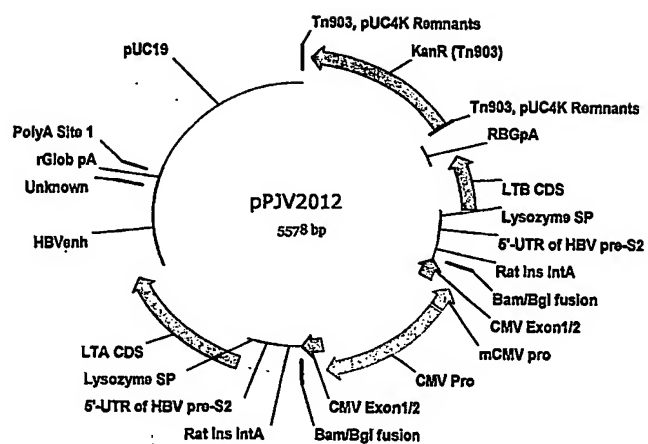
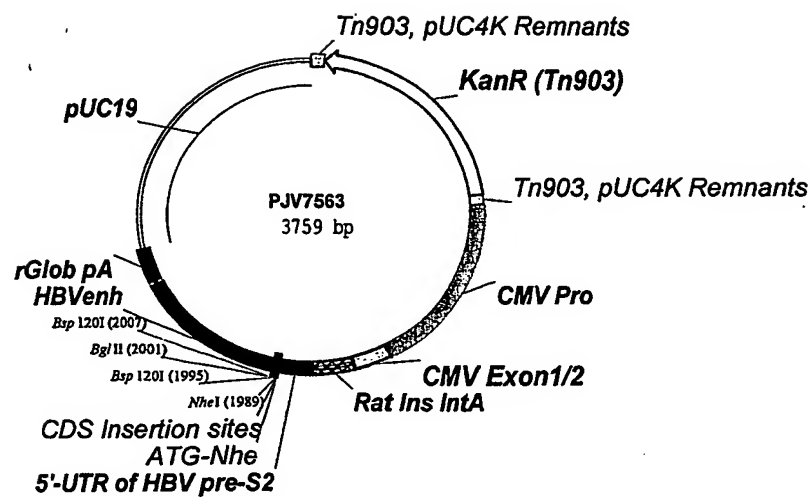


Figure 11



[illegible]

Figure 13
Flowchart Derivatization of Plasmids PJV7563

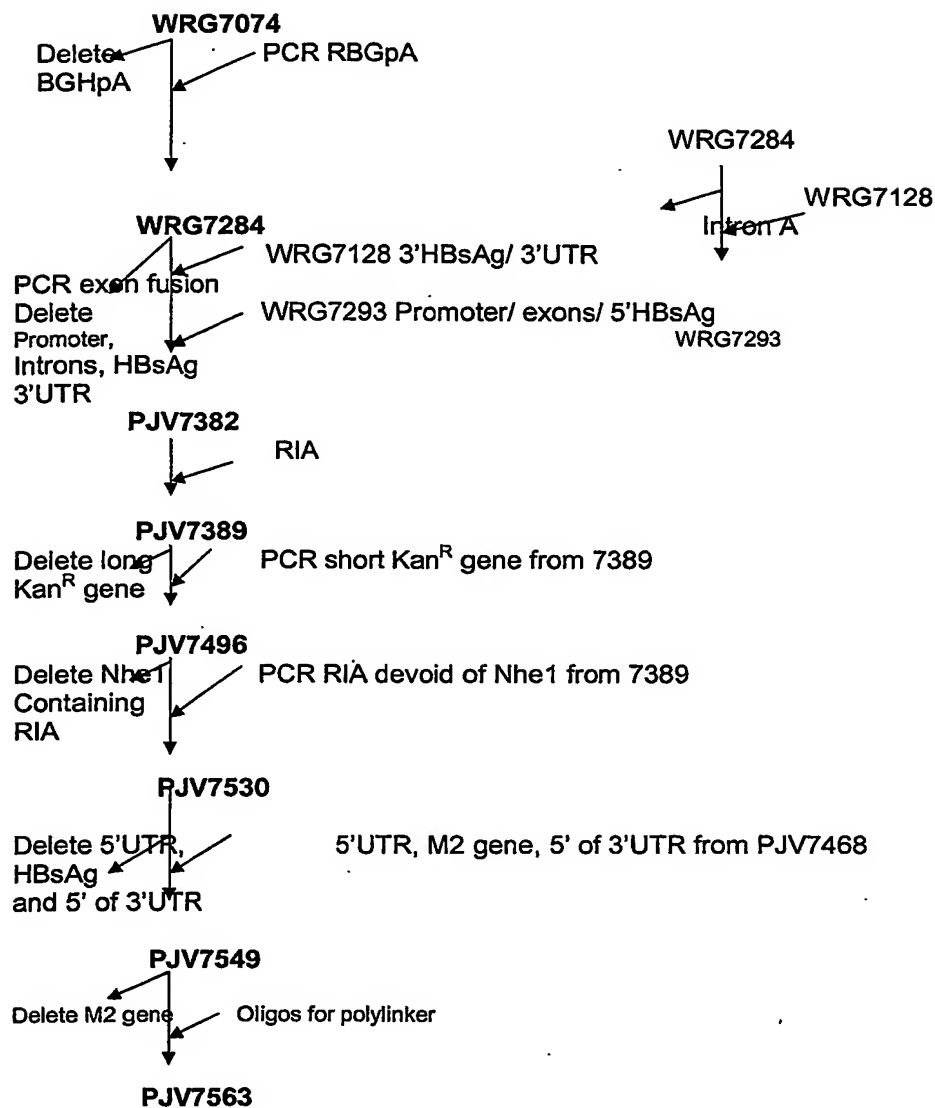
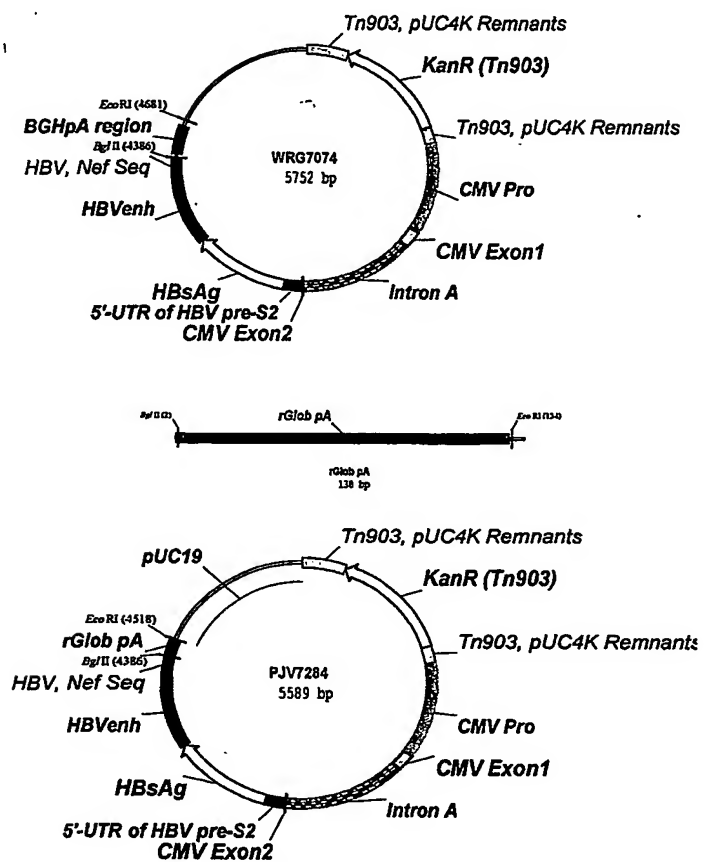
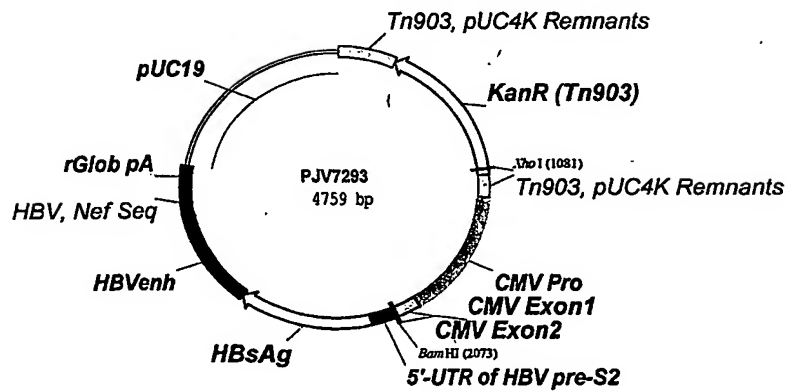
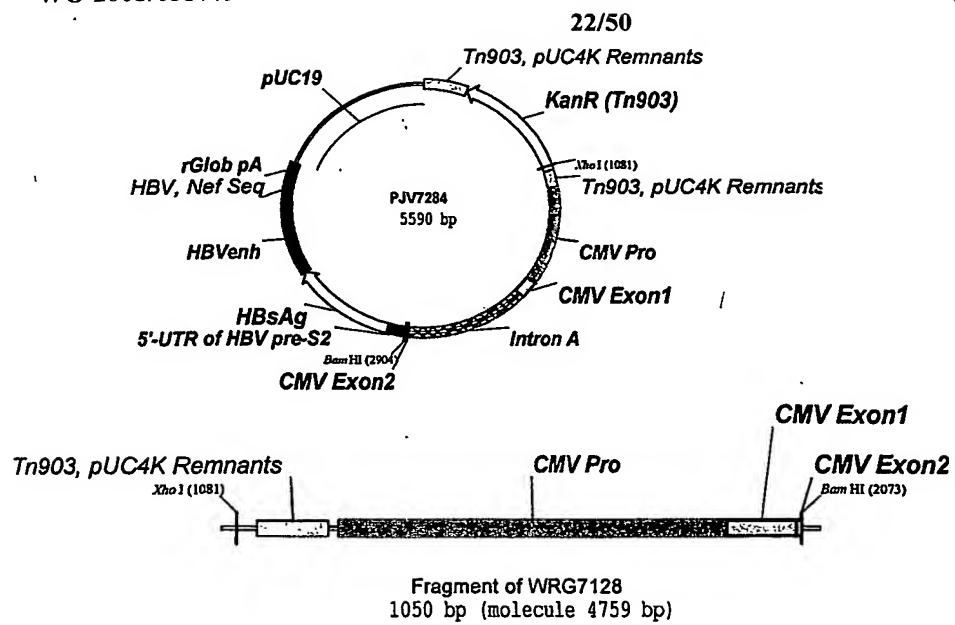
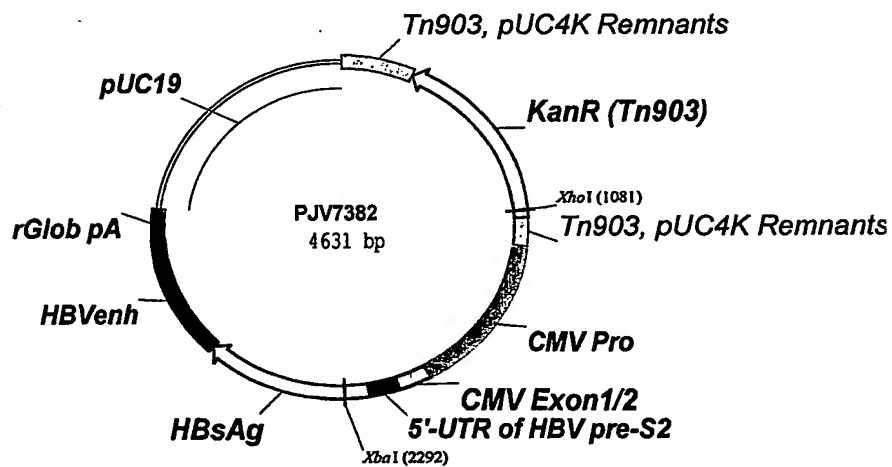
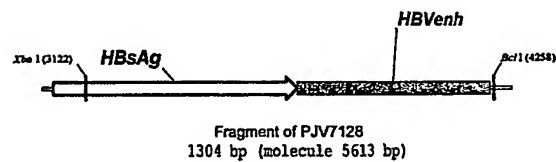
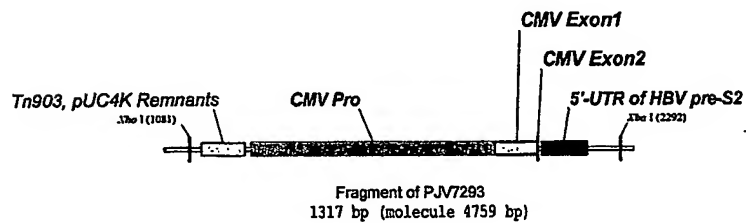
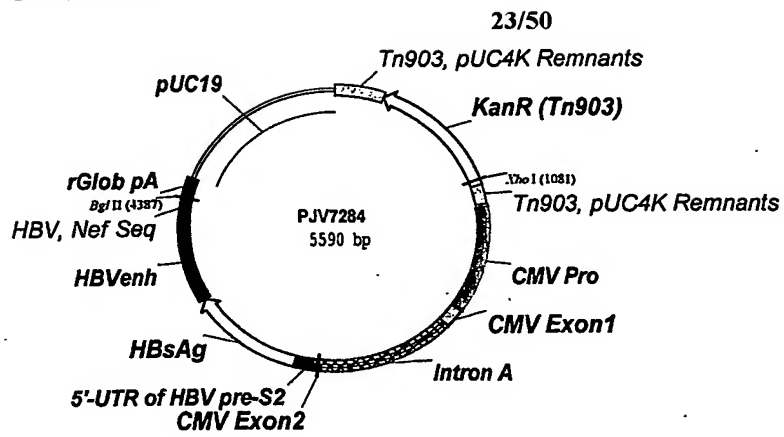


Figure 14 (i) - (viii)

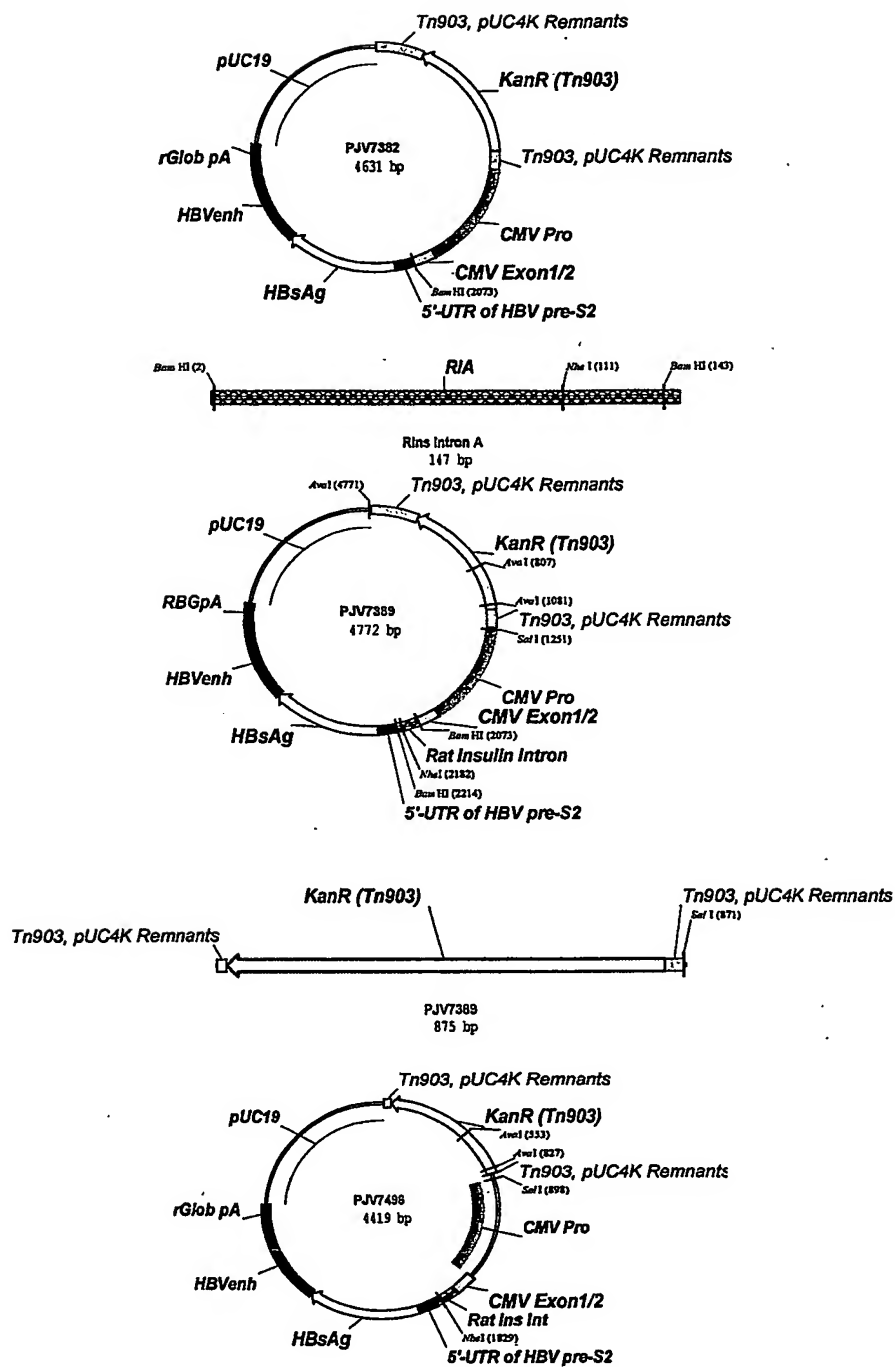
Feature Maps of Key Plasmids in Construction of pPJV7563



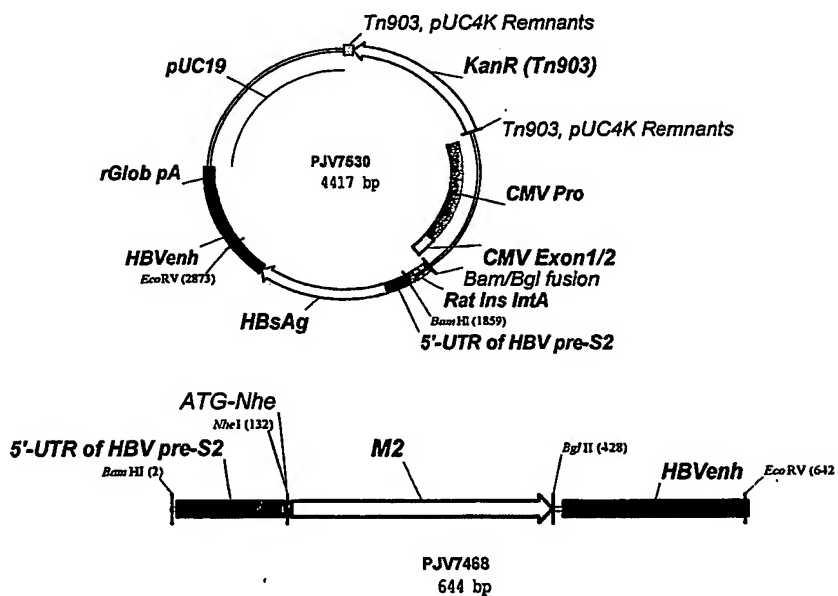
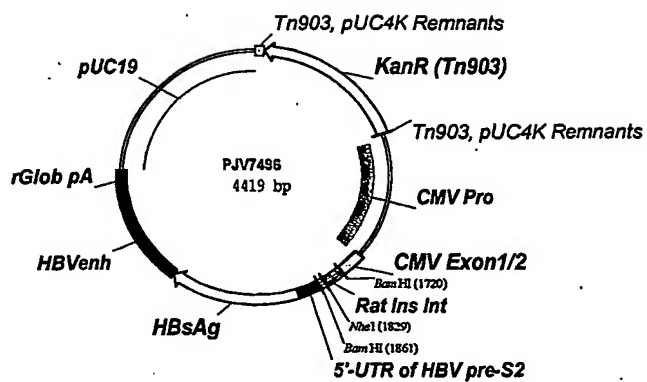




24/50



25/50



26/50

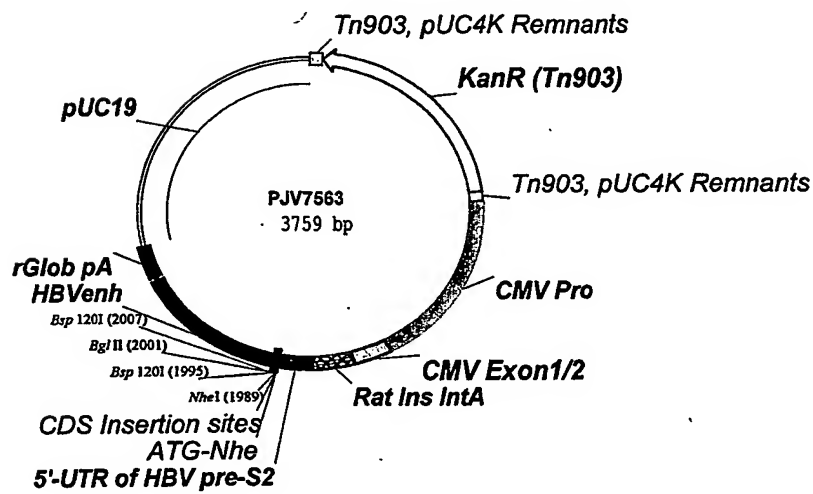
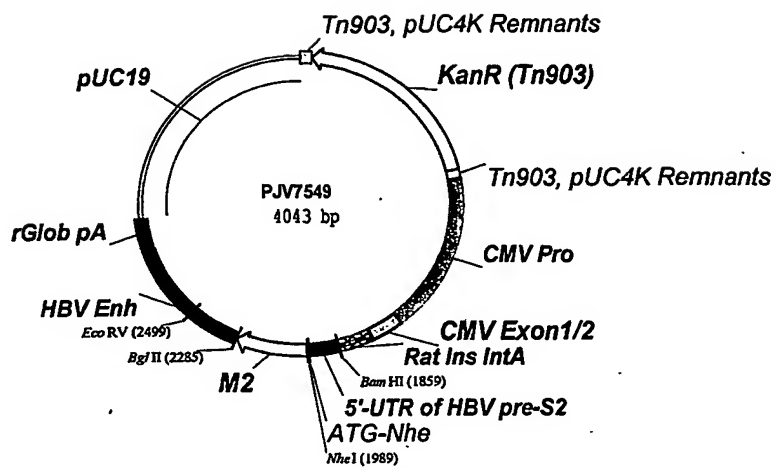


Figure 15
Flowchart Derivation of Plasmids WRG7074 and WRG7128

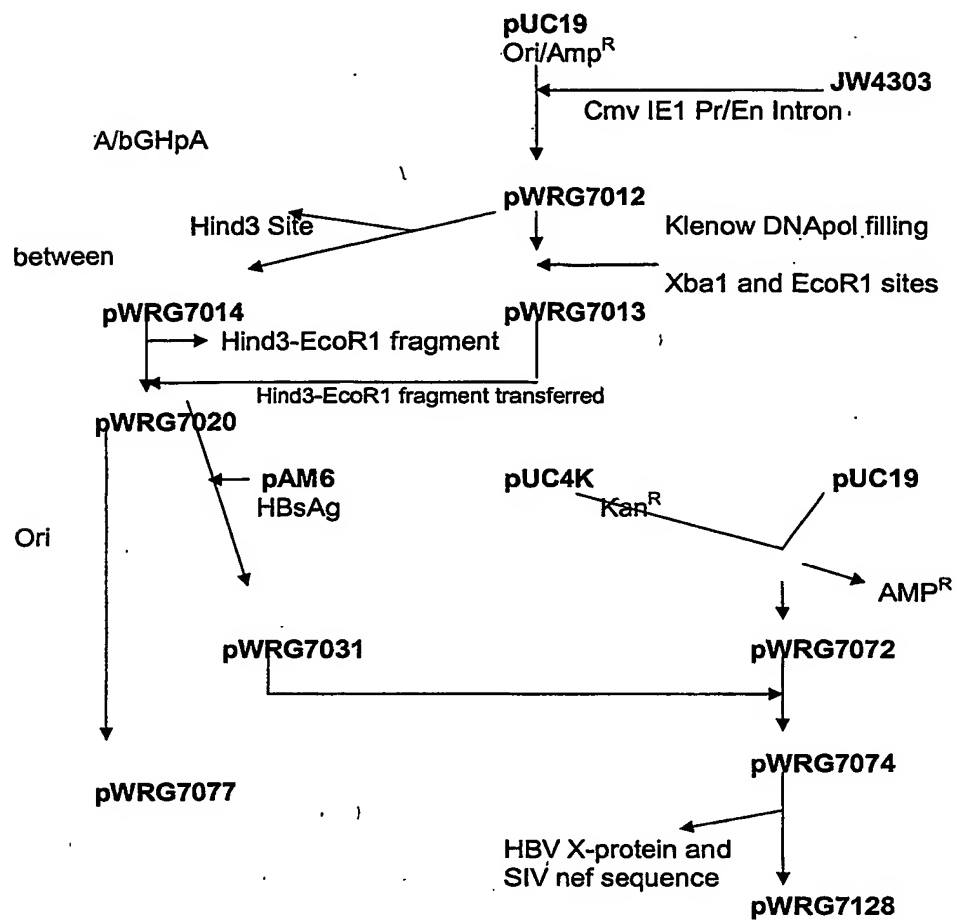
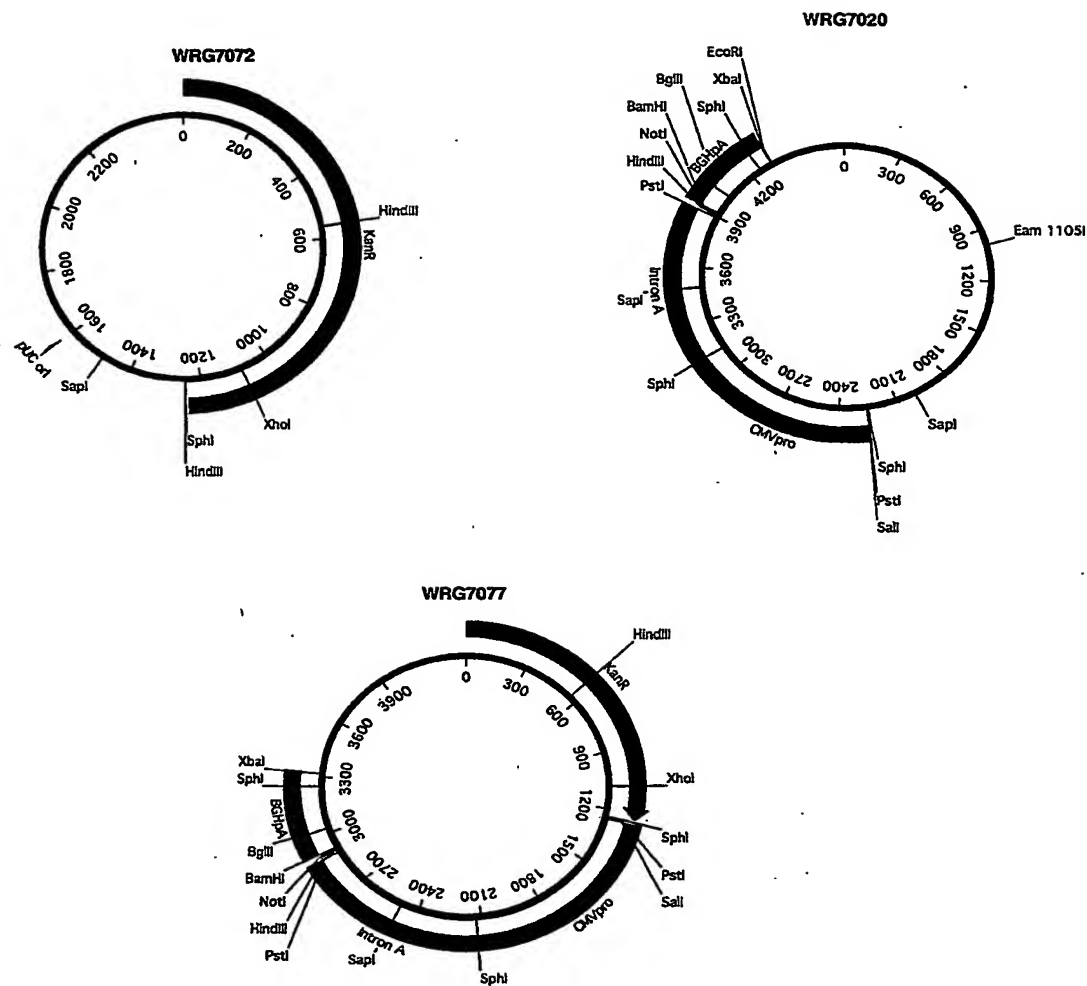
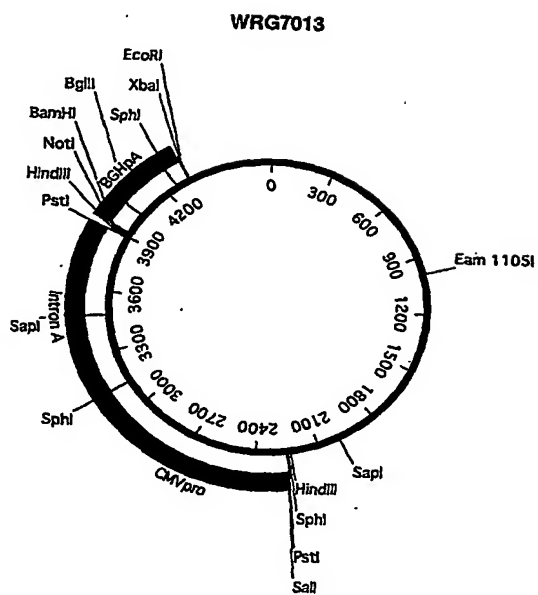
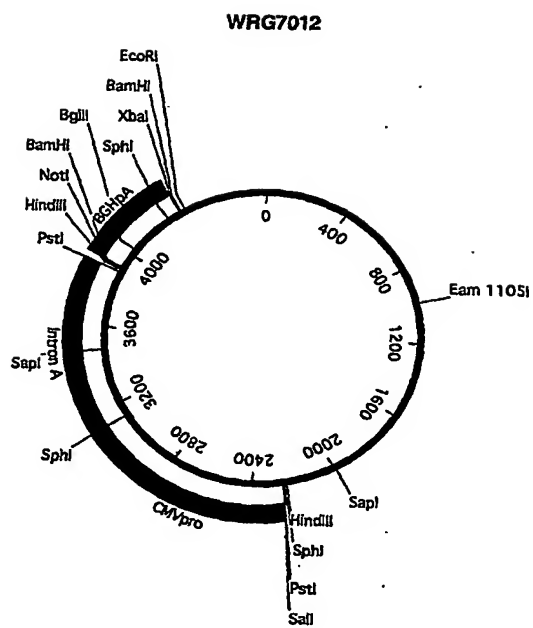
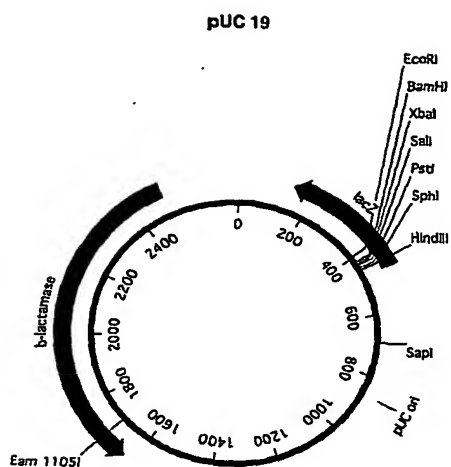
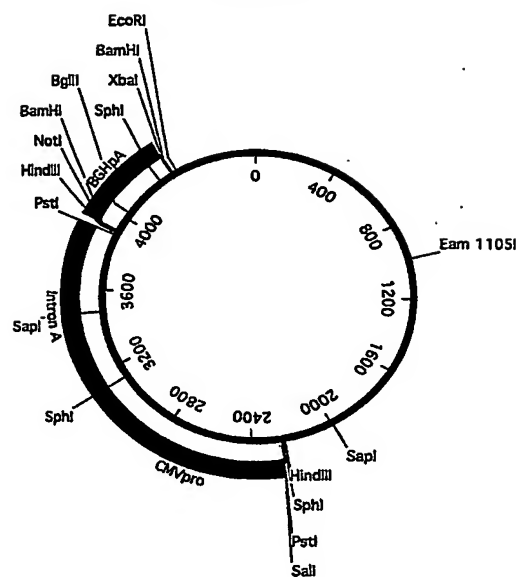


Figure 16 (i) to (v): Key Plasmid Features

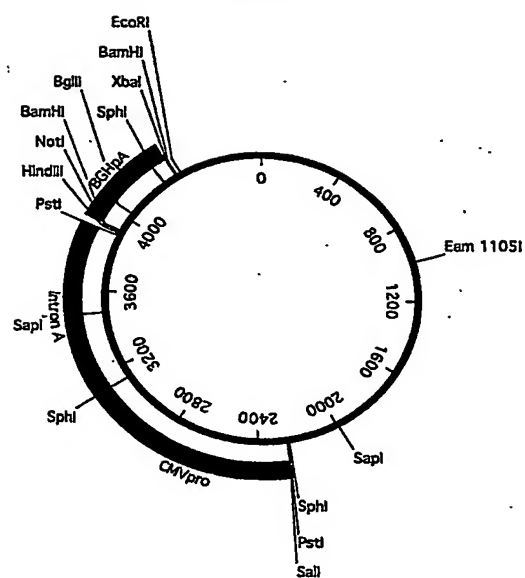




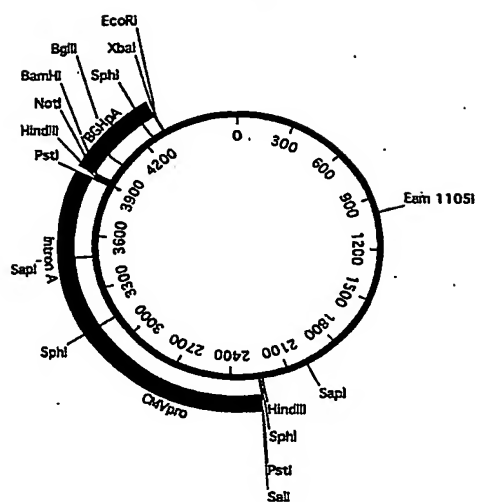
WRG7012



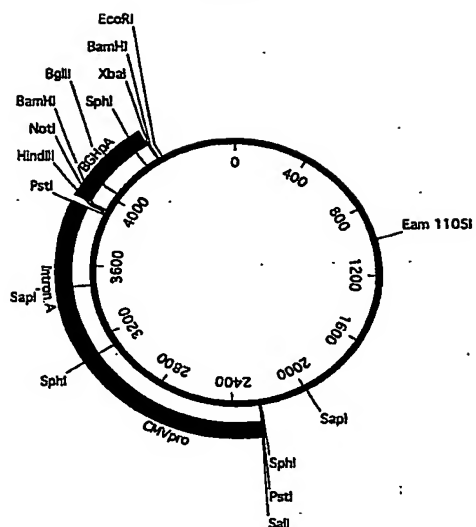
WRG7014



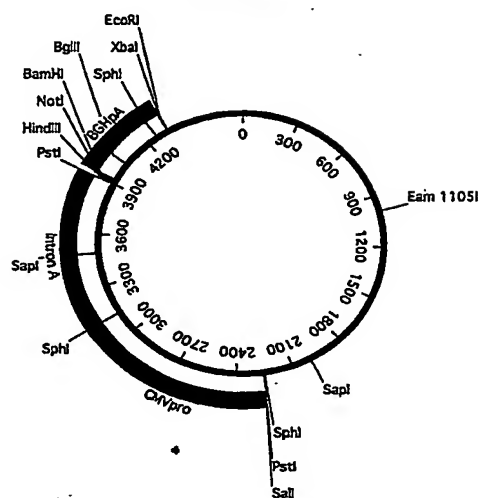
WRG7013



WRG7014



WRG7020



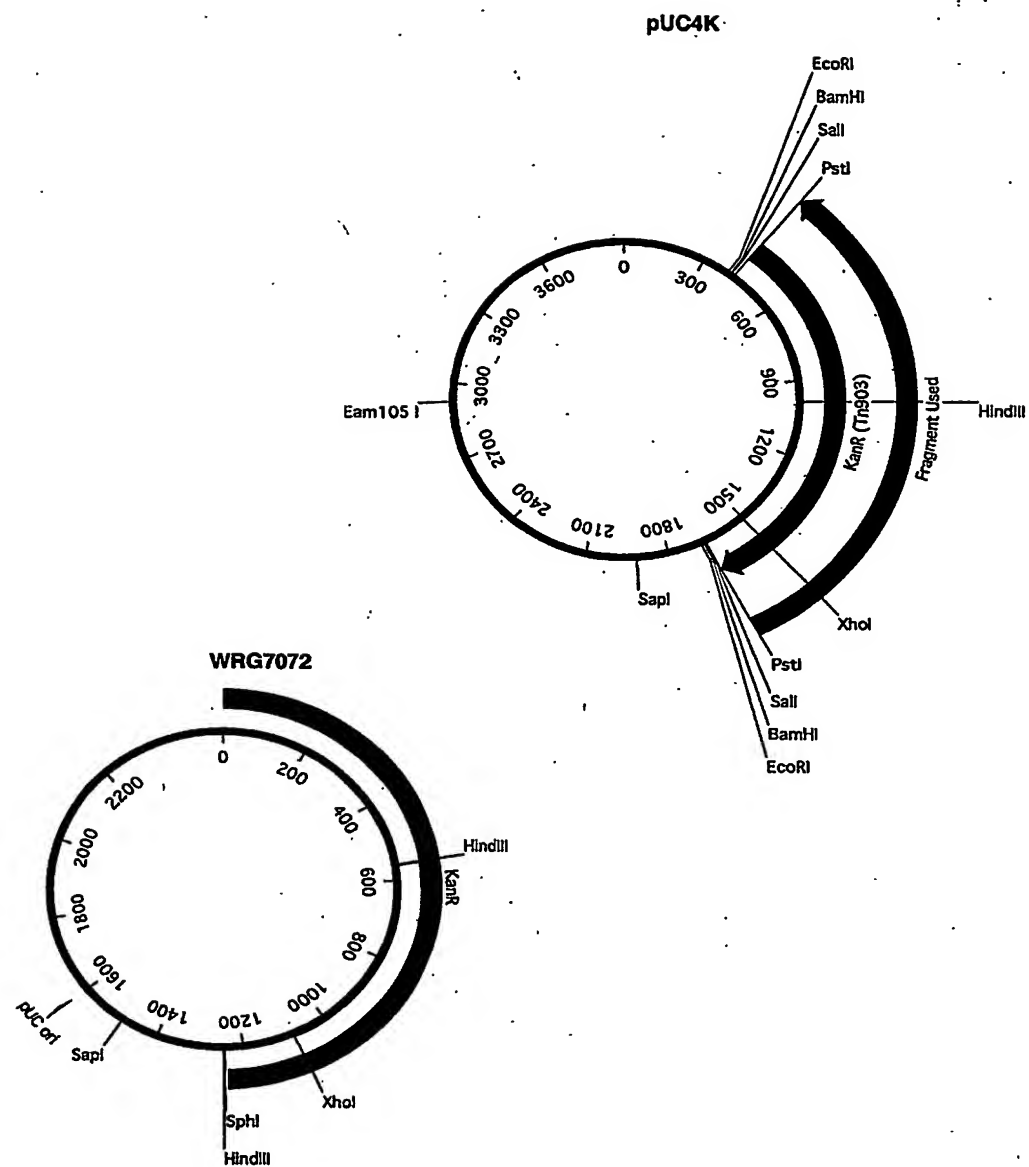


Figure 17

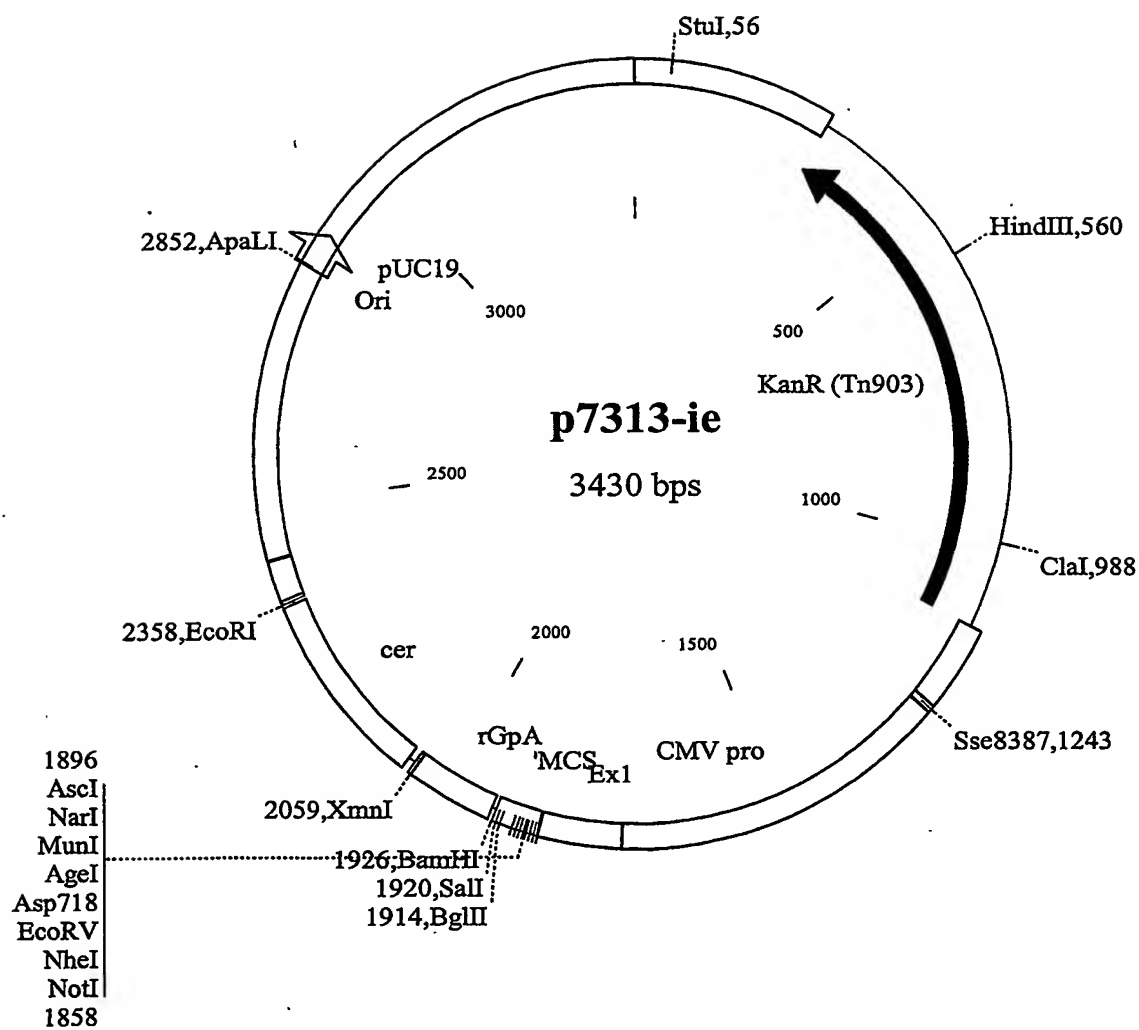


Figure 18

Sequence of p55 gag insert in pGagOptrpr2

5
ATGGGTGCCCCGAGCTTCGGTACTGTCTGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCT
GCGCCCCGGGAGGCCAAAAAGAAATACAAGCTCAAGCATATCGTGTGGGCCTCGAGGGAGCTTG
AACGGTTTGCCGTGAACCCAGGCCTGCTGGAAACATCTGAGGGATGTCGCCAGATCCTGGGG
CAATTGCAGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCCTTGTATAACACAGTGGC
10 TACCCCTCTACTGCGTACACCAGAGGATCGAGATTAAGGATACCAAGGAGGCCTTGGACAAAA
TTGAGGAGGAGCAAAACAAGAGCAAGAAGAAGGCCCAGCAGGCAGCTGCTGACACTGGGCAT
AGCAACCAGGTATCACAGAACTATCCTATTGTCCAAAACATTGAGGGCCAGATGGTTCATCA
GGCCATCAGCCCCCGGACGCTCAATGCCTGGGTGAAGGTTGTGCGAAGAGAAGGCCTTTTCTC
CTGAGGTTATCCCCATGTTCTCCGCTTTGAGTGAGGGGGCCACTCCTCAGGACCTCAATACA
15 ATGCTTAATACCGTGGGCGGCCATCAGGCCGCCATGCAAATGTTGAAGGAGACTATCAACGA
GGAGGCAGCCGAGTGGGACAGAGTGCATCCCGTCCACGCTGGCCCAATCGCGCCCGGACAGA
TGCGGGAGCCTCGCGGCTCTGACATTGCCGGCACCACCTCTACACTGCAAGAGCAAATCGGA
TGGATGACCAACAATCCTCCCATCCAGTTGGAGAAATCTATAAACGGTGGATCATTCTCGG
TCTCAATAAAATTGTTAGAATGTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCA
20 AAGAGCCTTTTAGGGATTACGTGACCGGTTTTTATAAGACCCCTGCGAGCAGAGCAGGCCTCT
CAGGAGGTCAAAAACCTGGATGACGGAGACACTCCTGGTACAGAACGCTAACCCCGACTGCAA
AACAATCTTGAAGGCACTAGGCCCCGGCTGCCACCCTGGAAGAGATGATGACCGCCTGTCAGG
GAGTAGGCGGACCCGGACACAAAGCCAGAGTGTTGGCCGAAGCCATGAGCCAGGTGACGAAC
TCCGCAACCATCATGATGCAGAGAGGGAACCTCCGCAATCAGCGGAAGATCGTGAAGTGTTT
25 CAATTGCGGCAAGGAGGGTCATACCGCCCCGCAACTGTCGGGCCCCCTAGGAAGAAAGGGTGTT
GGAAGTGCGGCAAGGAGGGACACCAGATGAAAGACTGTACAGAACGACAGGCCAATTTTCTT
GGAAAGATTTGGCCGAGCTACAAGGGGAGACCTGGTAATTTCTGCAAAGCAGGCCCCGAGCC
CACCGCCCCCCCCTGAGGAATCCTTCAGGTCCGGAGTGGAGACCACAACGCCTCCCCAAAAC
AGGAACCAATCGACAAGGAGCTGTACCCTTTAACTTCTCTGCGTTCTCTCTTTGGCAACGAC
30 CCGTCGTCTCAATAA

MGARASVLSG GELDRWEKIR LRPGGKKKYK LKHIVWASRE LERFAVNPGL
LETSEGCRQI LGQLQPSLQT GSEELRSLYN TVATLYCVHQ RIEIKDTKEA
LDKIEEEQNK SKKKAQQAAA DTGHSNQVSQ NYPIVQNIQG QMVHQAI SPR
35 TLNAWVKVVE EKA FSPEVIP MFSALSEGAT PQDLN TMLNT VGGHQAMQM
LKETINEEAA EWDRVHPVHA GPIAPGQMR PRGSDIAGTT STLQEQIGWM
TNNPPIPVGE IYKRWIILGL NKIVRMYSPT SILDIRQGP EPFRDYVDRF
YKTLRAEQAS QEVKNWMTET LLVQNPDC KTILKALGPA ATLEEMMTAC
QGVGGPGHKA RVLAEAMSQV TNSATIMMQR GNFRNQRKIV KCFNCGKEGH
40 TARNCRAPRK KGCWKCGKEG HQMKD

CTERQ ANFLGKIWPS YKGRPGNFLO

SRPEPTAPPE ESFRSGVETT TPPQKQEPID KELYPLTSLR SLFGNDPSSQ

*

5

Figure 19

Sequence of the p17/24trNEF insert in p17/24trNEF1

10 ATGGGTGCGAGAGCGTCAGTATTAAGCGGGGAGAATTAGATCGATGGGAAAAAATTCGGTT
AAGGCCAGGGGGAAAGAAAAATATAAATTAAACATATAGTATGGGCAAGCAGGGAGCTAG
AACGATTGCGAGTTAATCCTGGCCTGTTAGAAACATCAGAAGGCTGTAGACAAATACTGGGA
CAGCTACAACCATCCCTTCAGACAGGATCAGAAGAACTTAGATCATTATATAATACAGTAGC
AACCCTCTATTGTGTGCATCAAAGGATAGAGATAAAAGACACCAAGGAAGCTTTAGACAAGA
15 TAGAGGAAGAGCAAAACAAAAGTAAGAAAAAAGCACAGCAAGCAGCAGCTGACACAGGACAC
AGCAATCAGGTGAGCCAAAATTACCCTATAGTGCAGAACATCCAGGGGCAAATGGTACATCA
GGCCATATCACCTAGAACTTTAAATGCATGGGTAAAAGTAGTAGAAGAGAAGGCTTTCAGCC
CAGAAGTGATACCCATGTTTTTCAGCATTATCAGAAGGAGCCACCCACAAAGATTTAAACACC
ATGCTAAACACAGTGGGGGGACATCAAGCAGCCATGCAAATGTTAAAAGAGACCATCAATGA
20 GGAAGCTGCAGAAATGGGATAGAGTGCATCCAGTGCATGCAGGGCCTATTGCACCAGGCCAGA
TGAGAGAACCAAGGGGAAGTGACATAGCAGGAAGTACTAGTACCCTTCAGGAACAAATAGGA
TGGATGACAAATAATCCACCTATCCAGTAGGAGAAATTTATAAAAGATGGATAATCCTGGG
ATTAATAAAATAGTAAGAATGTATAGCCCTACCAGCATTCTGGACATAAGACAAGGACCAA
AAGAACCCTTTAGAGACTATGTAGACCGGTTCTATAAACTCTAAGAGCCGAGCAAGCTTCA
25 CAGGAGGTAAAAAATTGGATGACAGAAACCTTGTTGGTCCAAAATGCGAACCCAGATTGTAA
GACTATTTTAAAGCATTGGGACCAGCGGCTACACTAGAAGAAATGATGACAGCATGTCAGG
GAGTAGGAGGACCCGGCCATAAGGCAAGAGTTTTGGTGGGTTTTCCAGTCACACCTCAGGTA
CCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTAAAGAAAAGGG
GGGACTGGAAGGGCTAATTCACCTCCCAAAGAAGACAAGATATCCTTGATCTGTGGATCTACC
30 ACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTCAGATATCCA
CTGACCTTTGGATGGTGCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAA
TAAAGGAGAGAACACCAGCTTGTTACACCCTGTGAGCCTGCATGGGATGGATGACCCGGAGA
GAGAAGTGTTAGAGTGGAGGTTTGACAGCCACCTAGCATTTCATCACGTGGCCCGAGAGCTG
CATCCGGAGTACTTCAAGAACTGCTGA
35 MGARASVLSG GELDRWEKIR LRPGGKKKYK LKHIVWASRE LERFAVNPGL
LETSEGCRQI LGQLQPSLQT GSEELRSLYN TVATLYCVHQ RIEIKDTKEA
LDKIEEEQNK SKKKAQQAAA DTGHSNQVSQ NYPIVQNIQG QMVHQAISPR
TLNAWVKVVE EKAFSPEVIP MFSALSEGAT PQDLNTMLNT VGGHQAAMQM
40 LKETINEEAA EWDRVHPVHA GPIAPGQMRE PRGSDIAGTT STLQEQIGWM

TNNPPIPVGE IYKRWIILGL
NK
IVRMYSPT SILDIRQGPK EPFRDYVDRF
YKTLRAEQAS QEVKNWMTET LLVQNANPDC KTILKALGPA ATLEEMMTAC
5 QGVGGPGHKA RVLVGFVTP QVPLRPMTYK AAVDLSHFLK EKGGLLEGLIH
SQRRODILDL WIYHTQGYFP DWQNYTPGPG VRYPLTFGWC YKLVPVEPDK
VEEANKGENT SLLHPVSLHG MDDPEREVLE WRFDSHLAFH HVARELHPEY
FKNC*

10

Figure 20

Sequence of the p17/24opt/trNef insert in p17/24opt/trNef1

ATGGGTGCCCCGAGCTTCGGTACTGTCTGGTGGAGAGCTGGACAGATGGGAGAAAATTAGGCT
15 GCGCCCCGGGAGGCAAAAAGAAATACAAGCTCAAGCATATCGTGTGGGCCTCGAGGGAGCTTG
AACGGTTTGGCGTGAACCCAGGCCTGCTGGAAACATCTGAGGGATGTCGCCAGATCCTGGGG
CAATTGCAGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCCTTGTATAACACAGTGGC
TACCCTCTACTGCGTACACCAGAGGATCGAGATTAAGGATACCAAGGAGGCCTTGGACAAAA
TTGAGGAGGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCAGCTGCTGACACTGGGCAT
20 AGCAACCAGGTATCACAGAACTATCCTATTGTCCAAAACATTCAGGGCCAGATGGTTCATCA
GGCCATCAGCCCCCGGACGCTCAATGCCTGGGTGAAGGTTGTCTGAAGAGAAGGCCTTTTCTC
CTGAGGTTATCCCCATGTTCTCCGCTTTGAGTGAGGGGGCCACTCCTCAGGACCTCAATACA
ATGCTTAATACCGTGGGCGGCCATCAGGCCGCCATGCAAATGTTGAAGGAGACTATCAACGA
GGAGGCAGCCGAGTGGGACAGAGTGCATCCCGTCCACGCTGGCCCAATCGCGCCCCGGACAGA
25 TGCGGGAGCCTCGCGGCTCTGACATTGCCGGCACCACCTCTACACTGCAAGAGCAAATCGGA
TGGATGACCAACAATCCTCCCATCCAGTTGGAGAAATCTATAAACGGTGGATCATTTCTCGG
TCTCAATAAAATTTGTTAGAATGTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCA
AAGAGCCTTTTAGGGATTACGTCGACCGGTTTTTATAAGACCCTGCGAGCAGAGCAGGCCTCT
CAGGAGGTCAAAAACCTGGATGACGGAGACACTCCTGGTACAGAACGCTAACCCCGACTGCAA
30 AACAATCTTGAAGGCACTAGGCCCGGCTGCCACCCTGGAAGAGATGATGACCGCCTGTCAGG
GAGTAGGCGGACCCGGACACAAAGCCAGAGTGTTGATGGTGGGTTTTCCAGTCACACCTCAG
GTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTTAAAGAAAA
GGGGGGACTGGAAGGGCTAATCACTCCCAAAGAAGACAAGATATCCTTGATCTGTGGATCT
ACCACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTGAGATAT
35 CCACTGACCTTTGGATGGTGCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGC
CAATAAAGGAGAGAACACCAGCTTGTTACACCCTGTGAGCCTGCATGGGATGGATGACCCGG
AGAGAGAAGTGTTAGAGTGGAGGTTTGACAGCCACCTAGCATTTTCATCACGTGGCCCCGAGAG
CTGCATCCGGAGTACTTCAAGAACTGCTGA
40 MGARASVLSG GELDRWEKIR LRPGGKKKYK LKHIVWASRE LERFAVNPGI

LETSEGCRQI LGQLQPSLQT GSEELRSLYN TVATLYCVHQ RIEIKDTKEA
LDKIEEEQNK SKKKAQ

QAAA DTG

HSNQVSQ NYPIVQNIQG QMVHQAI SPR

5 TLNAWVKVVE EKAFSPEVIP MFSALSEGAT PQDLNTMLNT VGGHQAAMQM
LKETINEEAA EWDRVHPVHA GPIAPGQMR PRGSDIAGTT STLQEQIGWM
TNNPPIPVGE IYKRWIILGL NKIVRMYSPT SILDIRQGPK EPFRDYVDRF
YKTLRAEQAS QEVKNWMTET LLVQANPDC KTIKALGPA ATLEEMMTAC
QGVGGPGHKA RVL MVGF PVT PQVPLRPMTY KAAVDLSHFL KEKGGLEGLI
10 HSQRRQDILD LWIYHTQGYF PDWQNYTPGP GVRYP LTFGW CYKLVPVEPD
KVEEANKGEN TSL LHPVSLH GMDDPEREVL EWRFD SHLAF HHVARELHPE

YFKNC*

15

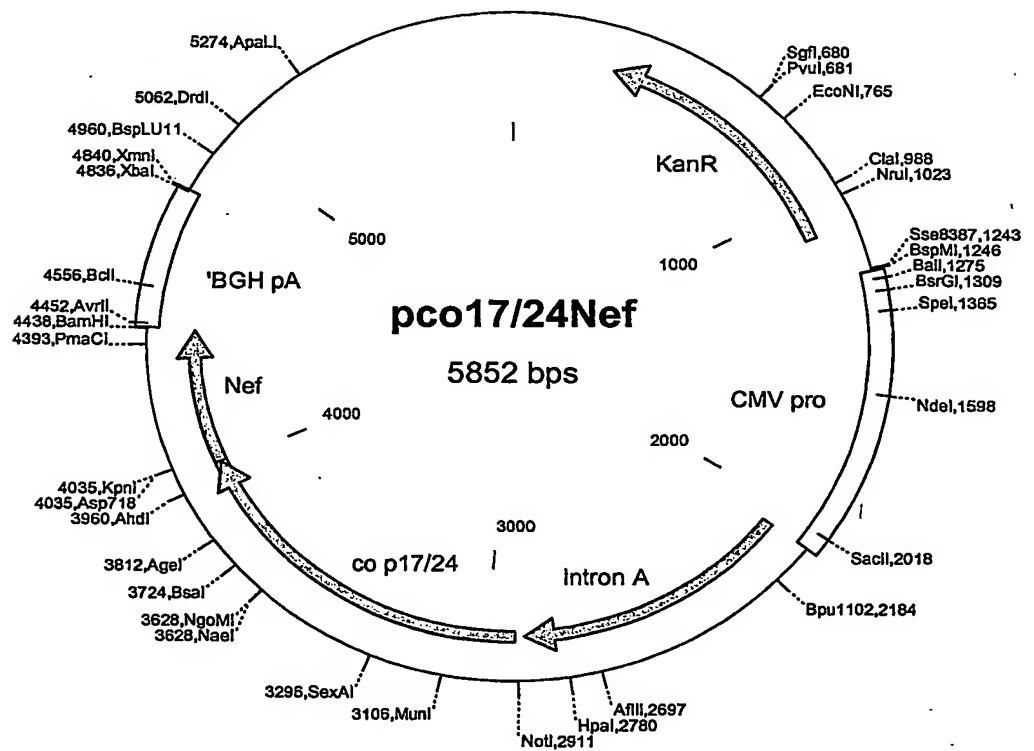


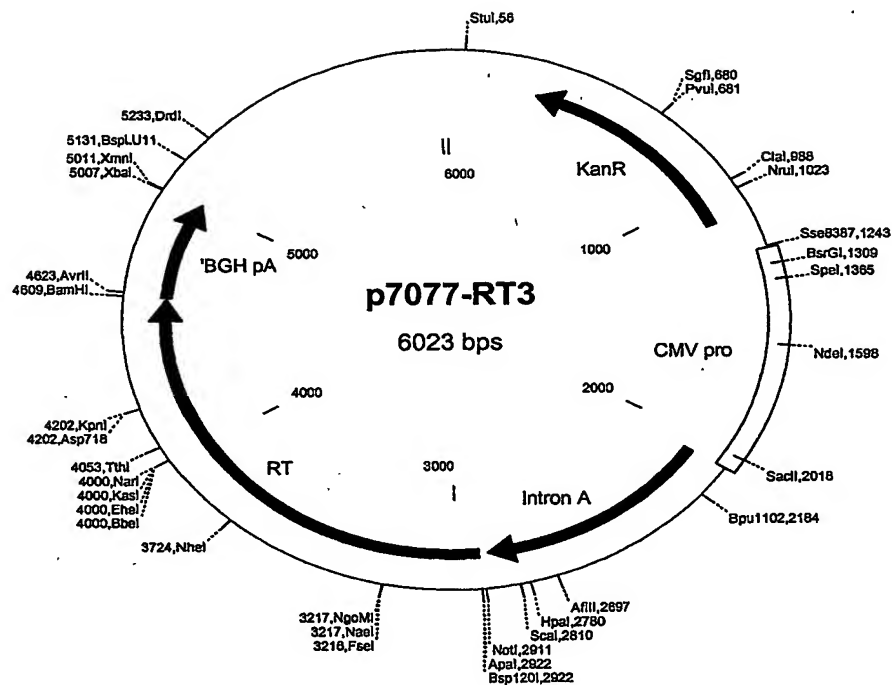
Figure 21

Sequence of RT insert of p7077-RT3:

ATGGGCCCCATCAGTCCCATCGAGACCGTGCCGGTGAAGCTGAAACCCGGGATGGACGGCCCC
CAAGGTCAAGCAGTGGCCACTCACCGAGGAGAAGATCAAGGCCCTGGTGGAGATCTGCACCG
5 AGATGGAGAAAGAGGGCAAGATCAGCAAGATCGGGCCTGAGAACCCATACAACACCCCCGTG
TTTGCCATCAAGAAGAAGGACAGCACCAAGTGGCGCAAGCTGGTGGATTTCGGGAGCTGAA
TAAGCGGACCCAGGATTTCTGGGAGGTCCAGCTGGGCATCCCCATCCGGCCGGCCTGAAGA
AGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCTTACTTCAGCGTCCCTCTGGACGAG
GACTTTAGAAAGTACACCGCCTTTACCATCCCATCTATCAACAACGAGACCCCTGGCATCAG
10 ATATCAGTACAACGTCTCTCCCCAGGGCTGGAAGGGCTCTCCCGCCATTTTCCAGAGCTCCA
TGACCAAGATCCTGGAGCCGTTTCGGAAGCAGAACCCCGATATCGTCATCTACCAGTACATG
GACGACCTGTACGTGGGCTCTGACCTGGAAATCGGGCAGCATCGCACGAAGATTGAGGAGCT
GAGGCAGCATCTGCTGAGATGGGGCCT
GACCAC
15 TCCGGACAAGAAGCATCAGAAGGAGCCGCCATTCTGTGGATGGGCTACGAGCTCCATCCCG
ACAAGTGGACCGTGCAGCCTATCGTCTCCCCGAGAAGGACAGCTGGACCGTGAAC
GACATCCAGAAGCTGGTGGGCAAGCTCAACTGGGCTAGCCAGATCTATCCCGGGATCAAGGT
GCGCCAGCTCTGCAAGCTGCTGCGCGGCACCAAGGCCCTGACCGAGGTGATTCCCCTCACGG
AGGAAGCCGAGCTCGAGCTGGCTGAGAACCGGGAGATCCTGAAGGAGCCCGTGCACGGCGTG
20 TACTATGACCCCTCCAAGGACCTGATCGCCGAAATCCAGAAGCAGGGCCAGGGGCAGTGGAC
ATACCAGATTTACCAGGAGCCTTTCAAGAACCTCAAGACCGGCAAGTACGCCCGCATGAGGG
GCGCCACACCAACGATGTCAAGCAGCTGACCGAGGCCGTCCAGAAGATCACGACCGAGTCC
ATCGTGATCTGGGGGAAGACACCCAAGTTCAAGCTGCCTATCCAGAAGGAGACCTGGGAGAC
GTGGTGGACCGAATATTGGCAGGCCACCTGGATTCCCGAGTGGGAGTTCGTGAATACACCTC
25 CTCTGGTGAAGCTGTGGTACCAGCTCGAGAAGGAGCCCATCGTGGGCGCGGAGACATTCTAC
GTGGACGGCGCGGCCAACC CGGAAACAAAGCTCGGGAAGGCCGGGTACGTCACCAACCGGGG
CCGCCAGAAGGTCGTACCCCTGACCGACACCACCAACCAGAAGACGGAGCTGCAGGCCATCT
ATCTCGCTCTCCAGGACTCCGGCCTGGAGGTGAACATCGTGACGGACAGCCAGTACGCGCTG
GGCATTATTACAGGCCAGCCGGACCAGTCCGAGAGCGAACTGGTGAACCAGATTATCGAGCA
30 GCTGATCAAGAAAGAGAAGGTCTACCTCGCCTGGGTCCCGGCCATAAGGGCATTGGCGGCA
ACGAGCAGGTCGACAAGCTGGTGAGTGCGGGGATTAGAAAGGTGCTGTAA

MGPISPIETV SVKCLKPGMDG PKVKQWPLTE EKIKALVEIC TEMEKEGKIS
KIGPENPYNT PVFAIKKKDS TKWRKLVDFR ELNKRQTDFW EVQLGIPHPA
35 GLKKKKS SVTV LDVGDAYFSV PLDEDFRKYT AFTIPSINNE TPGIRYQYNV
LPQGWKGSPA IFQSSMTKIL EPFRKQNPDI VIYQYMDLY VGS DLEIGQH
RTKIEELRQH LLRWGLTTPD KKHQKEPPFL WMGYELHPDK WTVQPIVLPE
KDSWTVNDIQ KLVGKLNWAS QIYPGIKVRQ LCKLLRGTKA LTEVIPLTEE
AELELAENRE ILKEPVHGVY YDPSKDLIAE IQKQGQGWY YQIYQEPFKN
40 LKTGKYARMR GAHTNDVKQL TEAVQKITTE SIVIWGKTPK FKLPIQKETW
ETWWTEYWQA TWIPEWEFVN TPPLVKLWYQ LEKEPIVGAE TFYVDGAANR

ETKLGKAGYV TNRGRQKVVT LTDTTNQKTE LQAIYLALQD SGLEVNIVTD
 SQYALGIIQA QPDQSESELV NQIIEQLIKK EKVYLAWVPA HKGIGGNEQV
 DKLVSA GIRK VL*



5

Figure 22

Sequence of the coding insert in p73i-RT3:

ATGGGCCCCATCAGTCCCATCGAGACCGTGCCGGTGAAGCTGAAACCCGGGATGGACGGCCC
 10 CAAGGTCAAGCAGTGGCCACTCACCGAGGAGAAGATCAAGGCCCTGGTGGAGATCTGCACCG
 AGATGGAGAAAGAGGGCAAGATCAGCAAGATCGGGCCTGAGAACCCATACAACACCCCCGTG
 TTTGCCATCAAGAAGAAGGACAGCACCAAGTGGCGCAAGCTGGTGGATTTCCGGGAGCTGAA
 TAAGCGGACCCAGGATTTCTGGGAGGTCCAGCTGGGCATCCCCATCCGGCCGGCCTGAAGA
 AGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCTTACTTCAGCGTCCCTCTGGACGAG
 15 GACTTTAGAAAGTACACCGCCTTTACCATCCCATCTATCAACAACGAGACCCCTGGCATCAG
 ATATCAGTACAACGTCTCTCCCCAGGGCTGGAAGGGCTCTCCCGCCATTTTCCAGAGCTCCA
 TGACCAAGATCCTGGAGCCGTTTCGGAAGCAGAACCCCGATATCGTCATCTACCAAGTACATG

GACGACCTGTACGTGGGCTCTGACCTGGAAATCGGGCAGCATCGCACGAAGATTGAGGAGCT
GAGGCAGCATCTGCTGAGATGGGGCCTGACCACTCCGGACAAGAAGCATCAGAAGGAGCCGC
CATTCTGTGGATGGGCTACGAGCTCCATCCCGACAAGTGGACCGTGCAGCCTATCGTCCTC
CCCGAGAAGGACAGCTGGACCGTGAACGACATCCAGAAGCTGGTGGGCAAGCTCAACTGGGC
5 TAGCCAGATCTATCCCGGGATCAAGGTGCGCCAGCTCTGCAAGCTGCTGCGCGGCACCAAGG
CCCTGACCGAGGTGATTCCCCTCACGGAGGAAGCCGAGCTCGAGCTGGCTGAGAACCGGGAG
ATCCTGAAGGAGCCCCGTGCACG
GCGTGTACTATGACCCCTCCAAGGACCTGATCGCCGAAATCCAGAAGCAGGGCCAGGGGCAG
TGGACATACCAGATTTACCAGGAGCCTTTCAAGAACCTCAAGACCGGCAAGTACGCCCCGAT
10 GAGGGGCGCCACACCAACGATGTCAAGCAGCTGACCGAGGCGCTCCAGAAGATCACGACCG
AGTCCATCGTGATCTGGGGGAAGACACCCAAGTTCAAGCTGCCTATCCAGAAGGAGACCTGG
GAGACGTGGTGGACCGAATATTGGCAGGCCACCTGGATTCCCGAGTGGGAGTTCGTGAATAC
ACCTCCTCTGGTGAAGCTGTGGTACCAGCTCGAGAAGGAGCCCATCGTGGGCGCGGAGACAT
TCTACGTGGACGGCGCGGCCAACC CGGAAACAAAGCTCGGGAA
15 GGCCGGGTACGTACCAACCGGGCCGCCAGAAGGTCGTACCCTGACCGACACCACCAACC
AGAAGACGGAGCTGCAGGCCATCTATCTCGCTCTCCAGGACTCCGGCCTGGAGGTGAACATC
GTGACGGACAGCCAGTACGCGCTGGGCATTATTTCAGGCCAGCCGGACCACTCCGAGAGCGA
ACTGGTGAACCAGATTATCGAGCAGCTGATCAAGAAAGAGAAGGTCTACCTCGCCTGGGTCC
CGGCCCATAAAGGGCATTGGCGGCAACGAGCAGGTCGACAAGCTGGTGAGTGCGGGGATTAGA
20 AAGGTGCTGTAA

MGPISPIETV SVKLKPGMDG PKVKQWPLTE EKIKALVEIC TEMEKEGKIS
KIGPENPYNT PVFAIKKKDS TKWRKLVDFR ELNKRTQDFW EVQLGIPHPA
GLKKKKS MTV LDVGDAYFSV PLDEDFRKYT AFTIPSINNE TPGIRYQYNV
25 LPQGWKGSPA IFQSSMTKIL EPFRKQNPDI VIYQYMDDLY VGS DLEIGQH
RTKIEELRQH LLRWGLTTPD KKHQKEPPFL WMGYELHPDK WTVQPIVLPE
KDSWTVNDIQ KLVGKLNWAS QIYPGIKVRQ LCKLLRGTKA LTEVIPLTEE
AELELAENRE ILKEPVHGVY YDPSKDLIAE IQKQGQGWY YQIYQEPFKN
LKTGKYARMR GAHTNDVKQL TEAVQKITTE SIVIWGKTPK FKLPIQKETW
30 ETWWTEYWQA TWIPEWEFVN TPPLVKLWYQ LEKEPIVGAE TFYVDGAANR
ETKL GKAGYV TNRGRQKVVT LTDTTNQKTE LQAIYLALQD SGLEVNIVTD
SQYALGIIQA QPDQSESELV NQIIEQLIKK EKVYLAWVPA HKGIGGNEQV
DKLVSAGIRK VL*

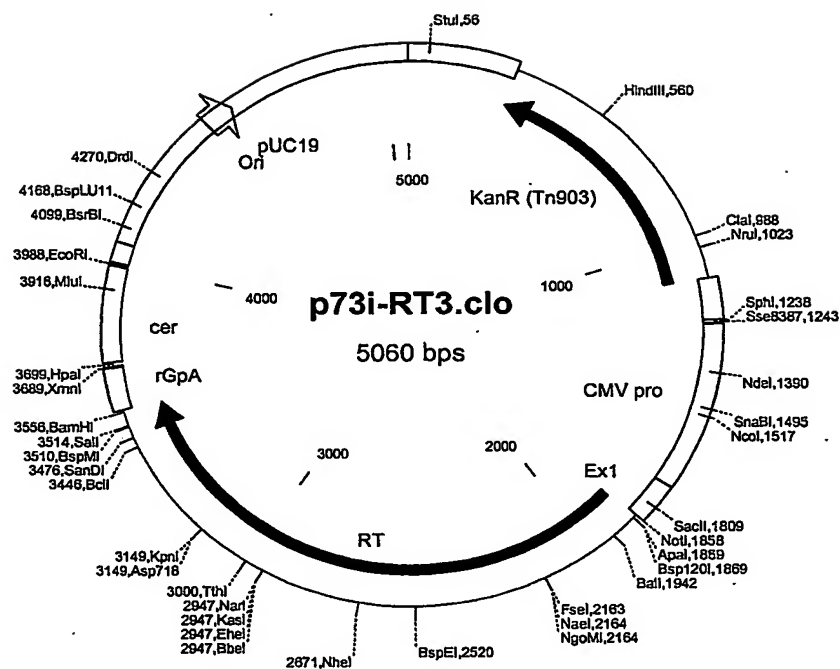


Figure 23

CD8, Interferon Gamma ELISPOT Results, from Day 14 C57Bl/6 Mice Vaccinated with Plasmid DNA Encoded with the HPV16 E7 Oncogene.

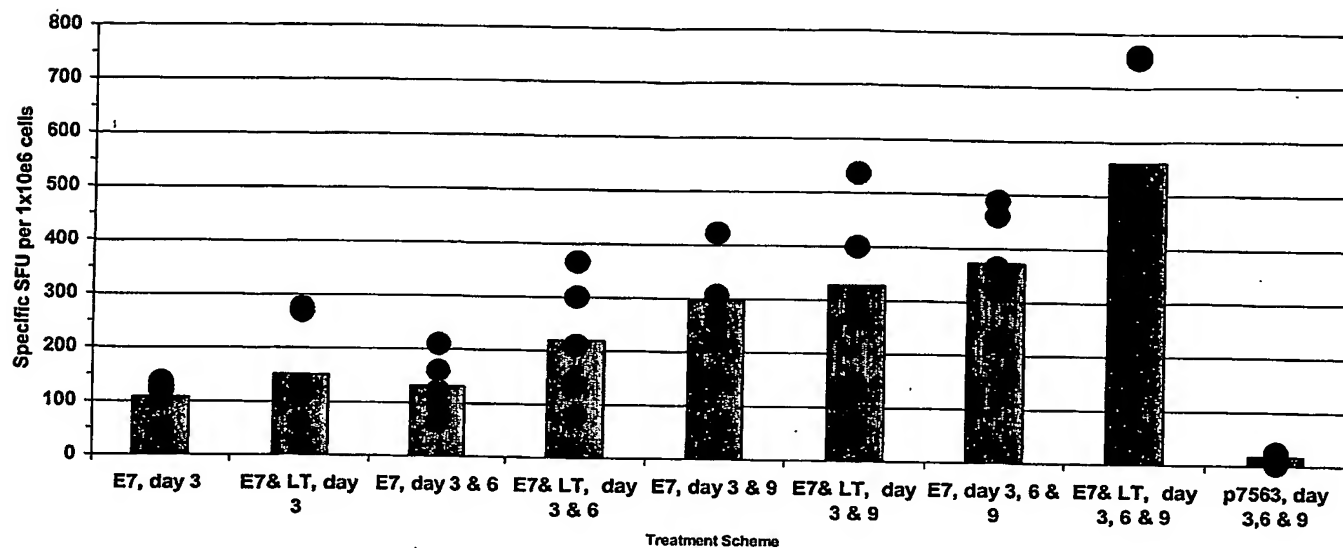
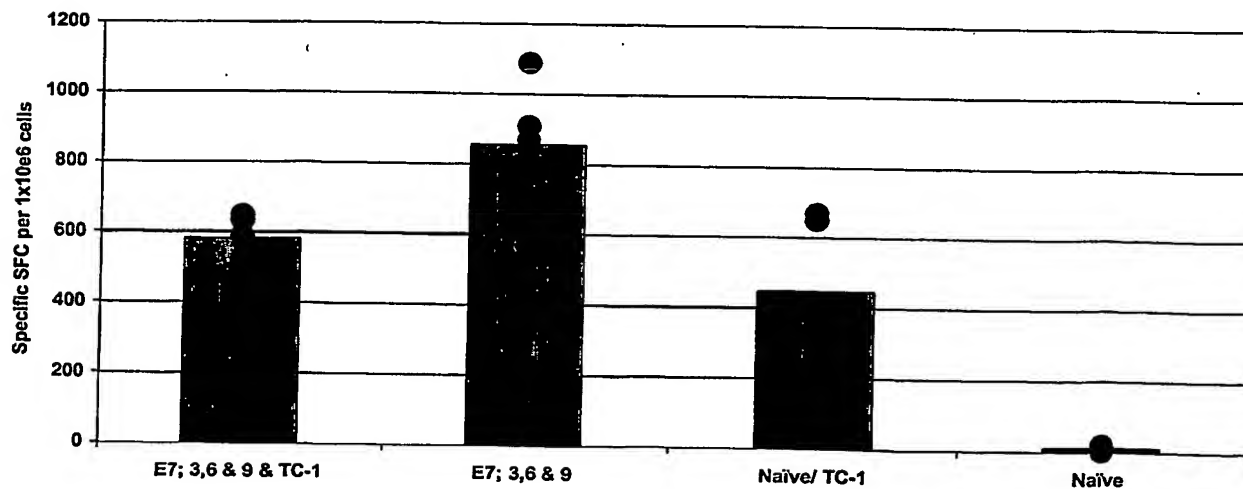


Figure 24

CD4 Peptide, IFN γ ELISPOT
E7 DNA Vaccine with and without TC-1 Cells(TC-1#7)



BEST AVAILABLE COPY

Figure 25

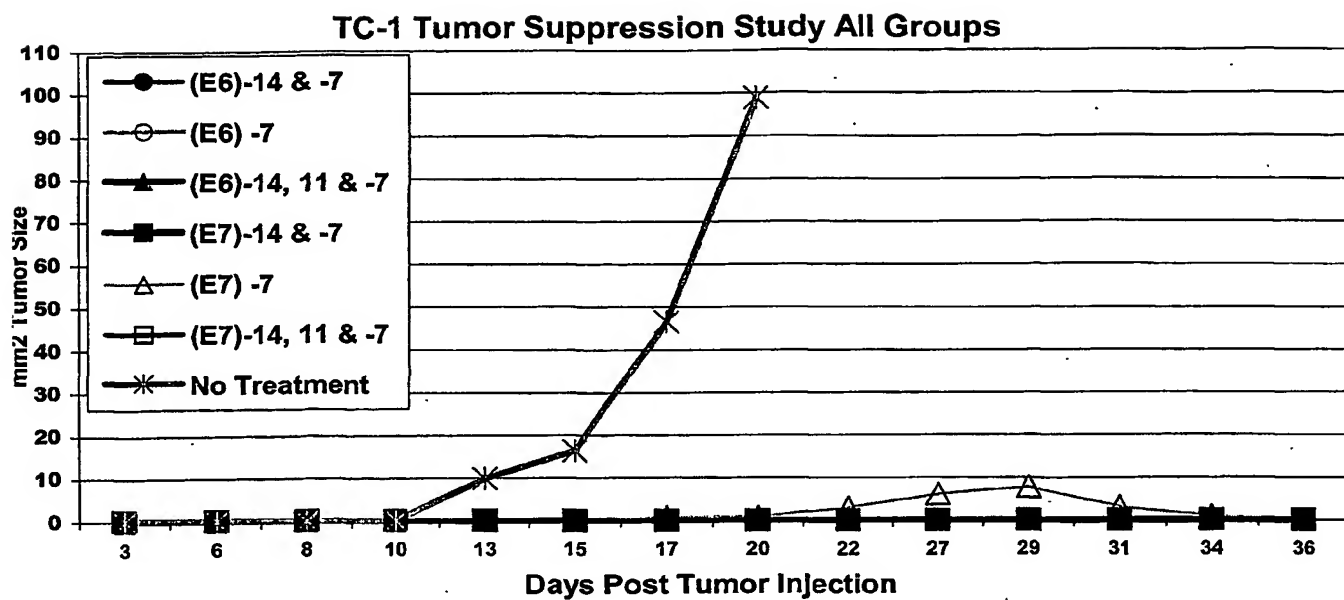
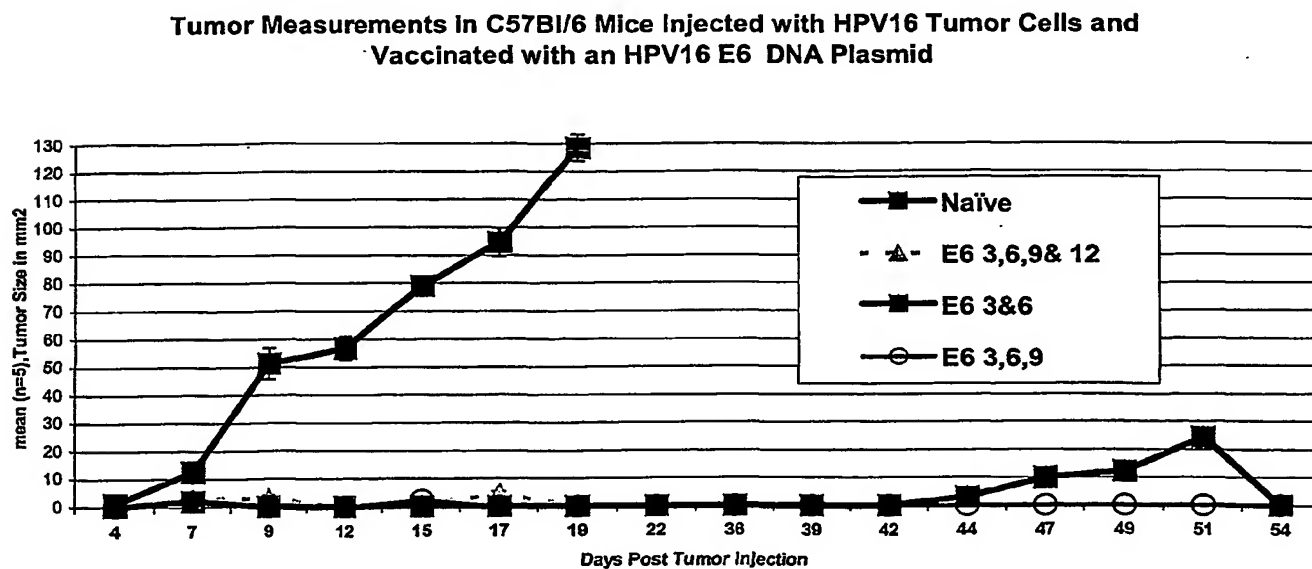


Figure 26



BEST AVAILABLE COPY

Figure 27

**Tumor Measurements in C57Bl/6 Mice, TC-1 cell Re-Challenge Experiment,
(TC-1#9)**

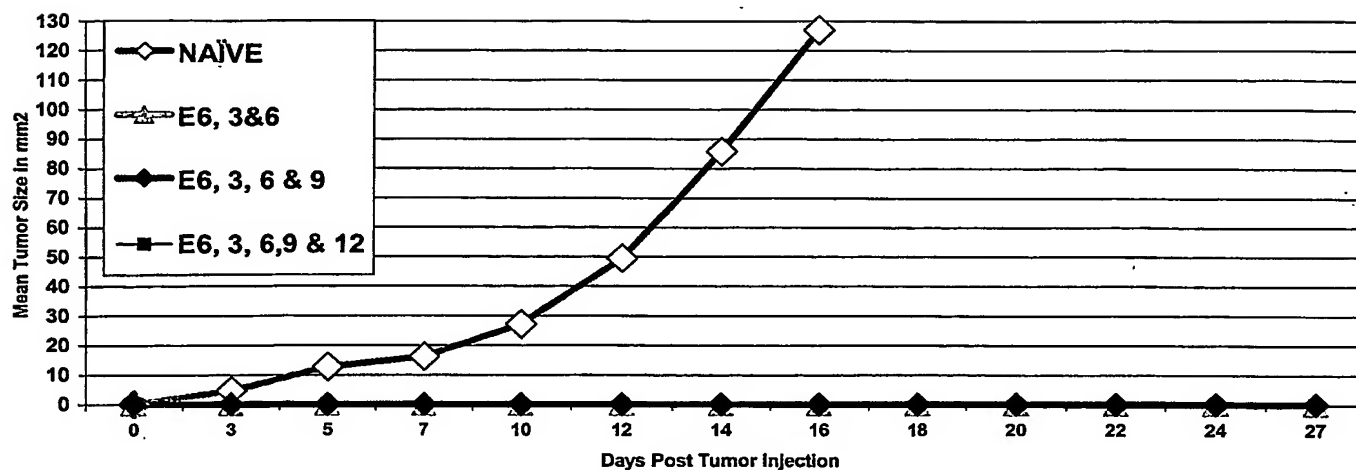


Figure 28

**TC-1 Tumor Suppression Study
(5x10⁴) TC-1 Cell Groups (TC-1#14)**

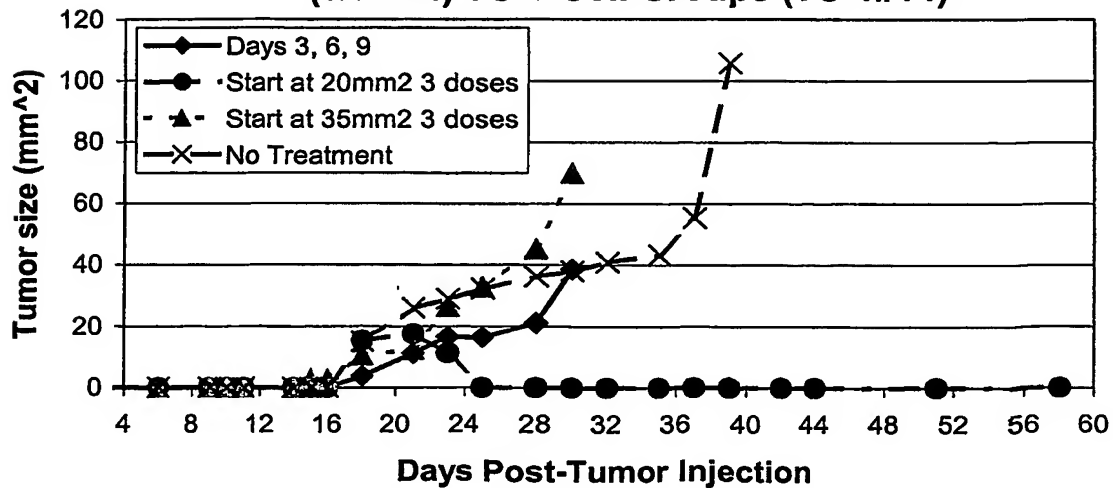


Figure 29

ICP27

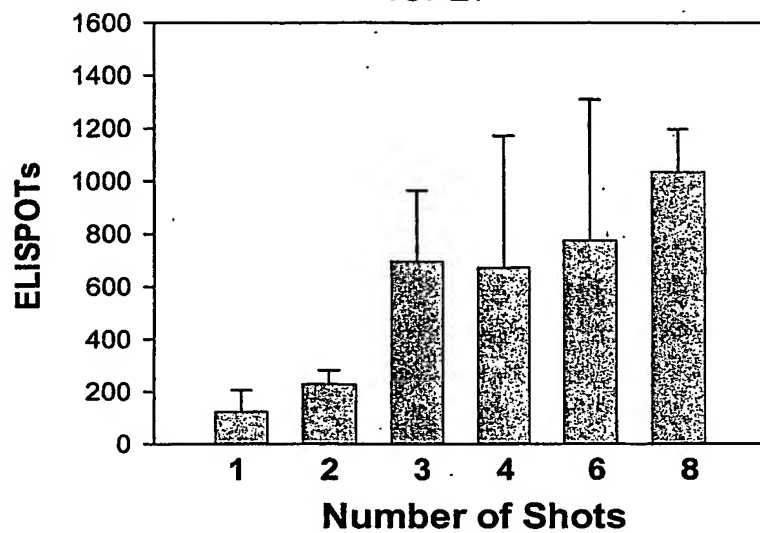
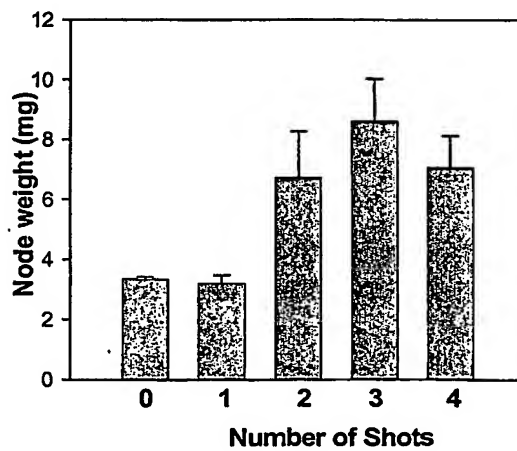
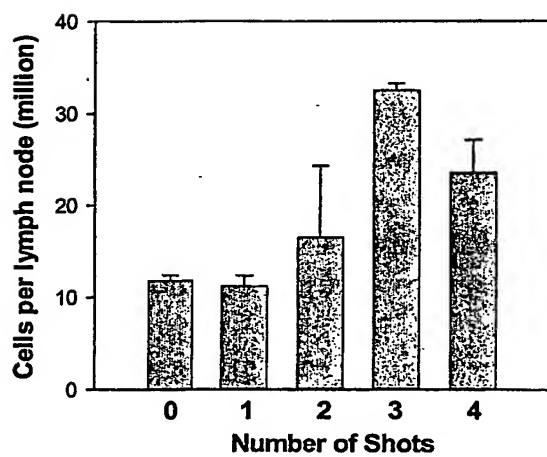


Figure 30



BEST AVAILABLE COPY

Figure 31

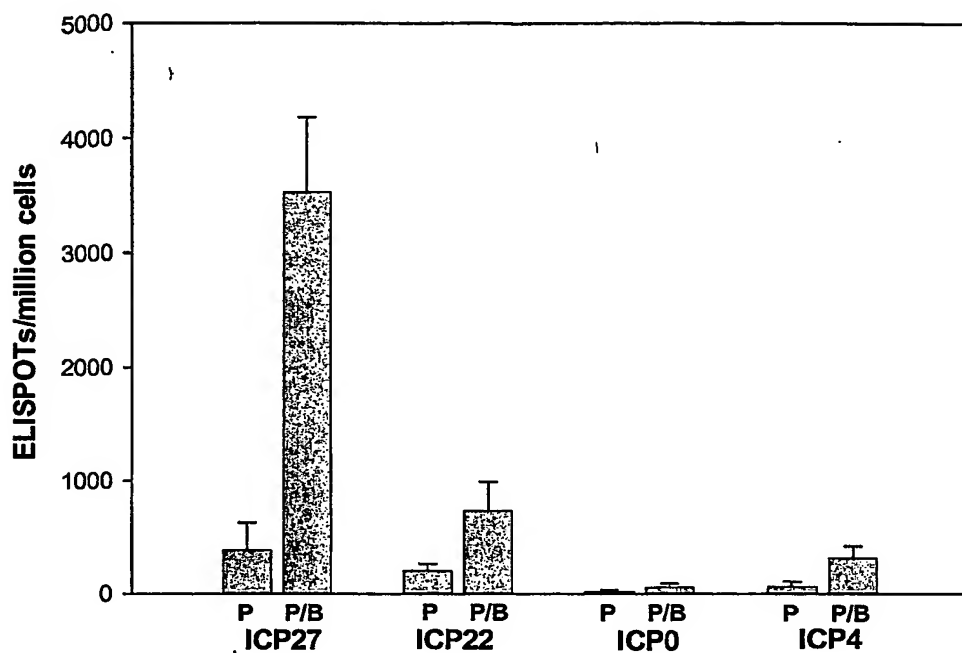


Figure 32

Immune responses in domestic pigs following cluster dosings

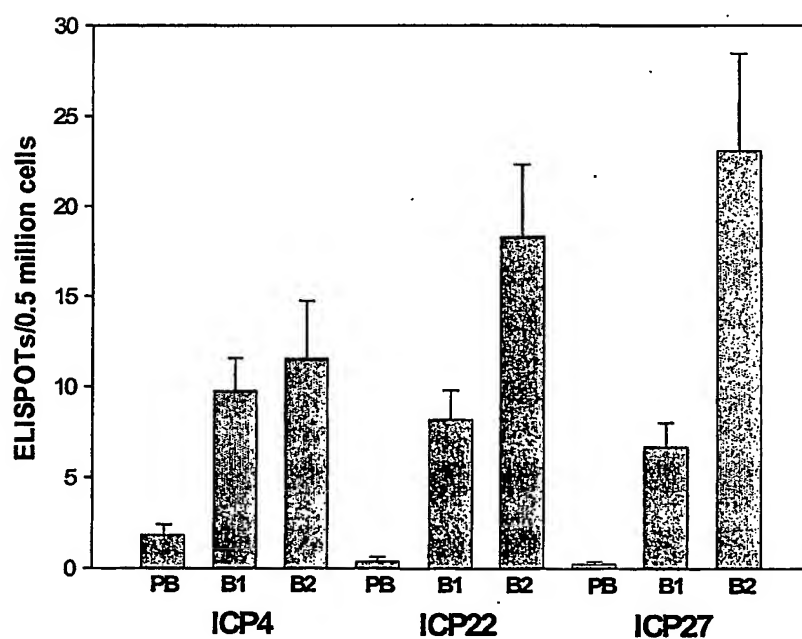


Figure 33

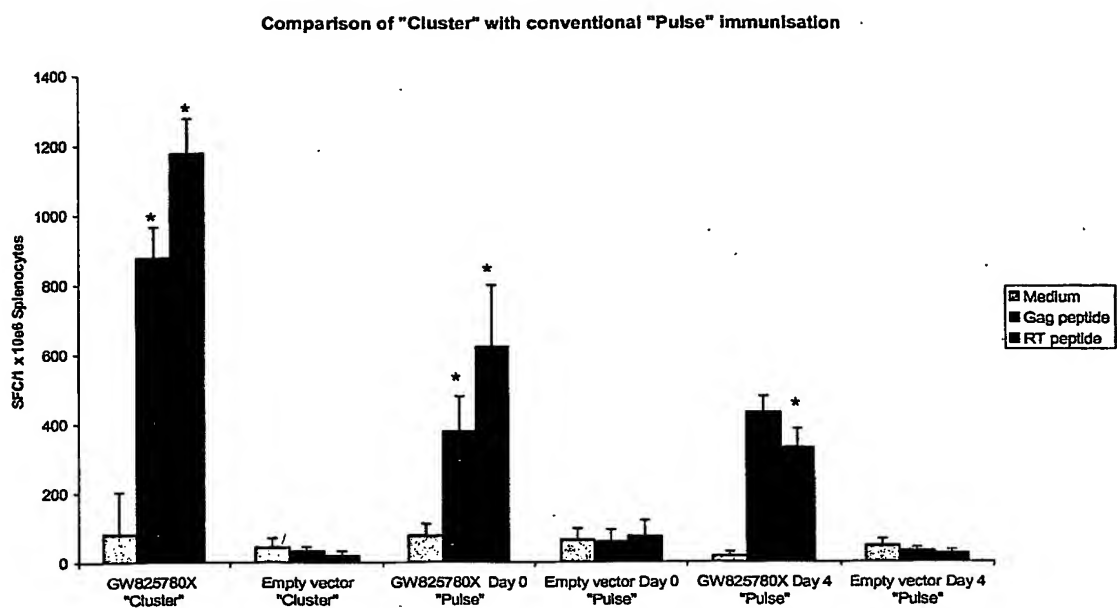


Figure 34

Comparison of conventional "pulse" with "modified cluster" immunisation

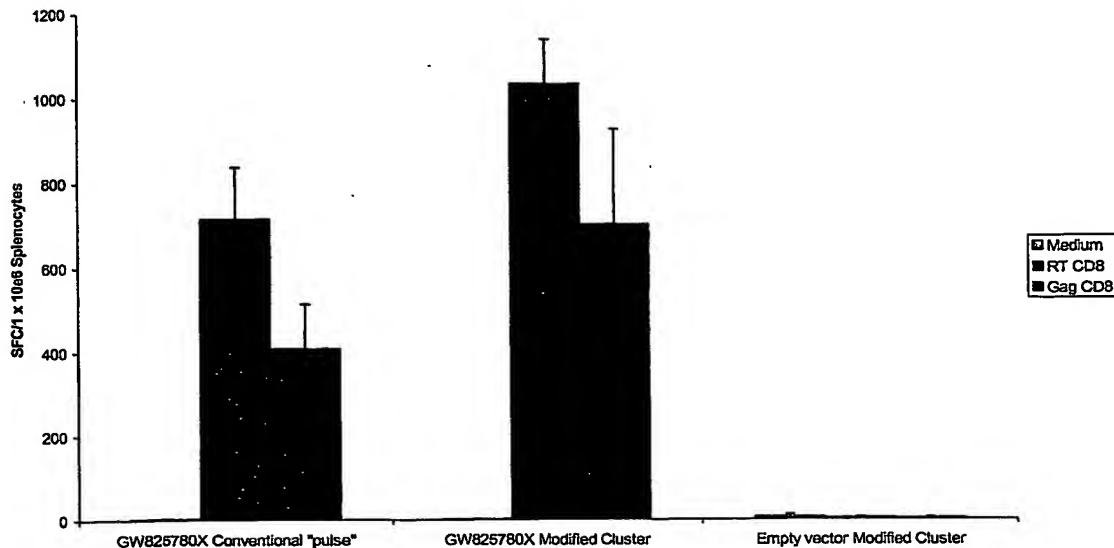
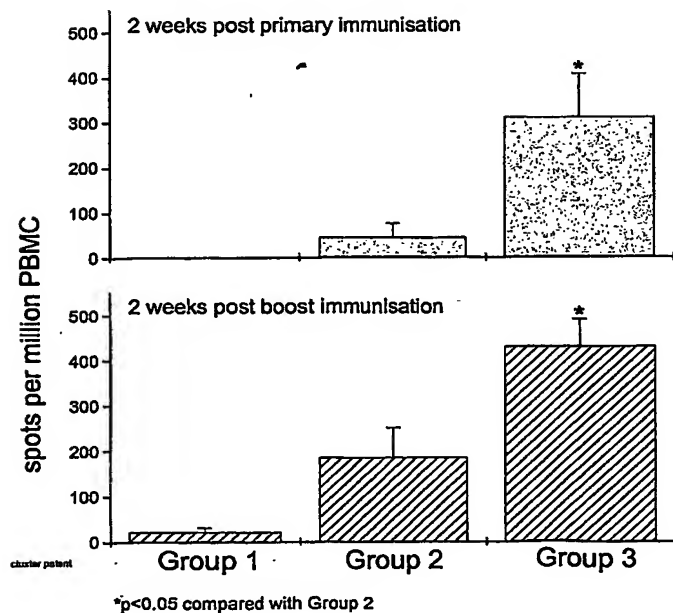


Figure 35



BEST AVAILABLE COPY

Figure 36

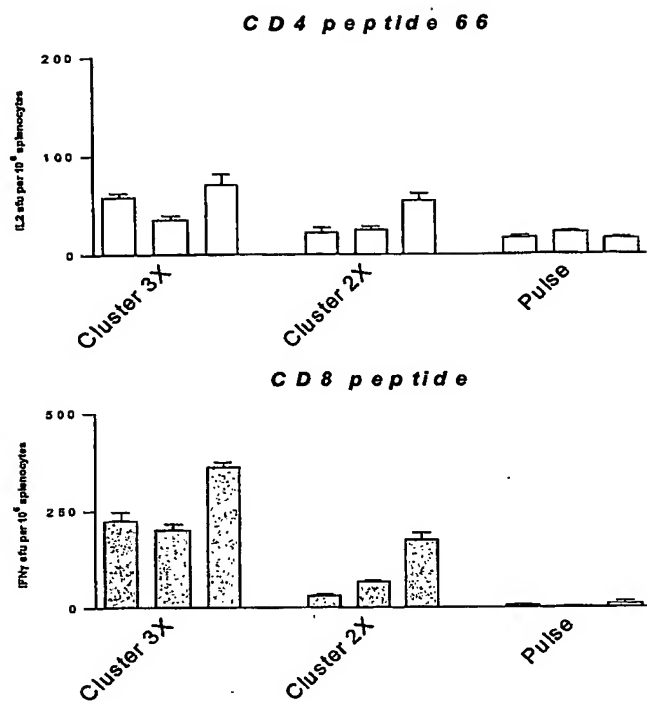


Figure 37

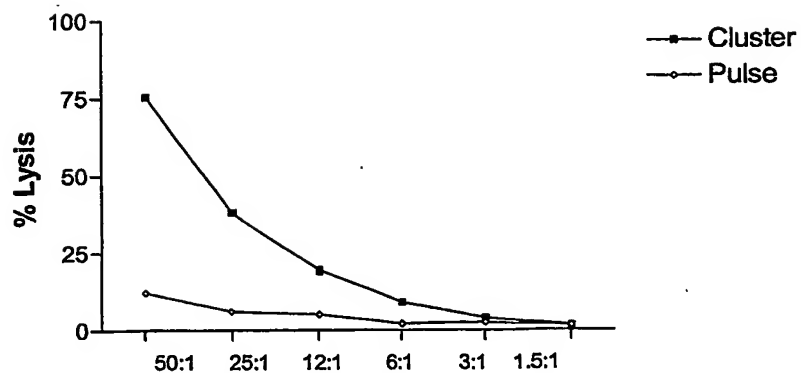


Figure 38

Cluster02

